

FAMILY MEDICINE
AND HYGIENE

For India

BY THE SAME AUTHOR.

HEALTH RESORTS for TROPICAL INVALIDS, in India,
at Home, and Abroad. Post 8vo. 5s.

HEALTH in the TROPICS; or, Sanitary Art applied to
Europeans in India. 8vo. 9s.

The OTHER SIDE of the OPIUM QUESTION. 8vo. 2s. 6d.

A MANUAL of the DISEASES of INDIA. *Second Edition.*
Post 8vo. 10s. 6d.

The IMMEDIATE TREATMENT of ACCIDENTS and
INJURIES. Published under the Authority of the Government of
Bombay. 8vo. 1s.

The CONSTITUTIONAL REQUIREMENTS for TROPICAL
CLIMATES, and the SEQUEL of DISEASE CONTRACTED in
— A. Crown 8vo. 4s.

A MANUAL
OF
FAMILY MEDICINE
AND HYGIENE
For India

BY
SIR WILLIAM MOORE, K.C.I.E.

HONORARY PHYSICIAN TO H.M. THE QUEEN
FORMERLY SURGEON-GENERAL WITH THE GOVERNMENT OF BOMBAY

under the Authority of the Government of India

SIXTH EDITION



LONDON
J. & A. CHURCHILL
11 NEW BURLINGTON STREET
1898

CASES containing the European Medicines recommended for use in the large type of this work (*vide* page 1) can be obtained from the GENERAL APOTHECARIES' COMPANY, Berners Street, London, Messrs BURROUGHS, WELLCOME, & Co., Snow Hill Buildings, London,

Messrs BATHGATE & Co. Calcutta,

Messrs SCOTT, MASCURINE, & Co. . Madras,

Messrs KEMP & Co. Bombay,

Messrs PHILLIPS & Co. Bombay.

PREFACE

THE origin of this work was the offer of a prize by the Government of India (awarded to the author in 1873) for a manual suitable for the numerous individuals, families, and office establishments, necessarily scattered over India in positions more or less remote from medical and surgical aid: also containing general instructions for preserving health in circumstances of exposure, and of residence in unhealthy localities; and adapted to a small economical medicine case, carrying as few medicines as possible. When the remedies most desirable for a malady are not in the case, the course recommended indicates the general treatment and dietary to be pursued, and the use of the most fitting medicines or applications available, either from the case, or *secondly*, as may be generally obtained in an Indian village bazaar. Where necessary a paragraph in small type is added to the treatment of diseases, advising what medicines should be procured, as soon as practicable, from a chemist. In some places less important information, but still information which will doubtless be sought for in the book, is also given in small type.

The whole text has been attentively reconsidered; various alterations, tending to simplification, have been made in the wording; and several additions have been inserted, the alterations and additions having in most instances been determined upon in consequence of communications expressing doubt as to meaning, or disappointment at the absence of certain information. As before, special attention has been given to the maladies of children, and to the treatment of infants.

It is therefore hoped this sixth edition will prove even more useful than preceding volumes.

CONTENTS

CHAPTER I

	PAGE
DOMESTIC MEDICINES, AND METHOD OF PREPARING THEM FOR USE	1-28

CHAPTER II

THE SYMPTOMS AND TREATMENT OF DISEASES	29-489
------------------------------------------------	--------

CHAPTER III

ACCIDENTS AND INJURIES	490-613
----------------------------------	---------

CHAPTER IV

PREGNANCY AND LABOUR	614-631
--------------------------------	---------

CHAPTER V

THE MANAGEMENT AND FEEDING OF INFANTS	632-650
-----------------------------------------------	---------

CHAPTER VI

THE PRESERVATION OF HEALTH	657-696
--------------------------------------	---------

CHAPTER VII

THE MANAGEMENT OF THE SICK-ROOM	697-706
-------------------------------------------	---------

APPENDIX

PRESCRIPTIONS, LOCAL APPLICATIONS, AND DISINFECTION .	707-738
-------------------------------------------------------	---------

ADDENDUM

DIETETIC PREPARATIONS FOR THE INVALID	739-743
-------------------------------------------------	---------

INDEX	745
-----------------	-----

LIST OF WOOD ENGRAVINGS

	PAGE
1. Sketch of measure-glasses	4
2. Method of dropping fluid medicines	5
3. Anterior view of the positions of internal organs	29
4. Posterior " " " " " " " " " " " " " " " "	30
5. Clinical thermometer scale	34
6. Bandage for protrusion of the bowels	85
7. Diagram of the digestive tube	198

THE PROGRESS OF TEETHING SHOWN IN SEVEN DIAGRAMS

8. (1)	Appearance of the two lower central incisors	.	.	.	.	.	.	429
9. (2)	" " upper "	"	"	.	.	.	.	430
10. (3)	" lower lateral "	"	.	.	.	.	.	430
11. (4)	" upper "	"	.	.	.	.	.	430
12. (5)	" anterior molars	.	.	.	.	.	.	430
13. (6)	" canine teeth	.	.	.	.	.	.	430
14. (7)	" second molars	.	.	.	.	.	.	430
15.	Lancing the gums of children	.	.	.	.	.	.	434
16.	The forceps used for extracting teeth	.	.	.	.	.	.	450
17.	Method of extracting a front tooth with the forceps	.	.	.	.	.	.	451
18.	The forceps clasping an extracted molar tooth	.	.	.	.	.	.	451
19.	Coat and pin sling	.	.	.	.	.	.	464
20.	Instruments required in ordinary surgical practice	.	.	.	.	.	.	490, 491
21.	A bandage or roller	.	.	.	.	.	.	494
22.	Method of rolling a bandage	.	.	.	.	.	.	494
23.	Method of bandaging the foot	.	.	.	.	.	.	494
24.	" hand and arm	.	.	.	.	.	.	495
25.	" leg	.	.	.	.	.	.	495
26.	The surgical tourniquet	.	.	.	.	.	.	497
27.	Substitute for the litter	.	.	.	.	.	.	499
28.	Blood-vessels of the neck and head	.	.	.	.	.	.	501
29.	" shoulder and arm	.	.	.	.	.	.	501
30.	" bend of the elbow and forearm	.	.	.	.	.	.	501
31.	" hand	.	.	.	.	.	.	502
32.	" thigh	.	.	.	.	.	.	502
33.	Method of tying an artery	.	.	.	.	.	.	504

	PAGE
34. Method of compressing the artery of the neck (carotid) . . .	506
35. " " " neck (subclavian) . . .	506
36. " " " arm (brachial) . . .	507
37. " " " thigh (femoral) . . .	508
38. The stick and handkerchief tourniquet	509
39. Dislocation of the lower jaw	528
40. " " shoulder-joint	530
41. The clove-hitch knot	532
42. Method of reducing a dislocated shoulder	531
43. " " 	532
44. " " 	533
45. Dislocation of the elbow	534
46. Method of reducing a dislocated finger	536
47. Dislocation of the hip	536
48. Method of reducing a dislocated hip	538
49. Dislocation of the ankle	541
50. Method of performing artificial respiration for drowning . . .	543
51. " " 	544
52. The interior of the throat and windpipe, showing the epiglottis .	548
53. The probang	550
54. The 'cradle' for fractures	555
55. Splint for fracture of the lower jaw	559
56. Method of bandaging a fracture of the lower jaw	559
57. " " " collar-bone	560
58. " " " arm-bone	564
59. " " " near the elbow	564
60. " " " forearm	566
61. Fracture near the wrist	567
62. Splint for fracture near the wrist	567
63. Fracture of the thigh-bone, near the hip-joint	570
64. Splint for fracture of the thigh	571
65. Method of bandaging a fractured thigh	572
66. Splint for fracture of the leg	576
67. Method of setting a fracture of the leg	578
68. Method of bandaging a fracture of the leg when placed on the side	577
69. " " " heel	578
70. Fracture of the leg immediately above the ankle	579
71. Irrigation stand	723

INDIAN DOMESTIC MEDICINE

CHAPTER I

CONTENTS OF THE INDIAN MEDICINE CASE, AND DESCRIPTION OF MEDICINES RECOMMENDED FOR USE

THE MEDICINES CONTAINED in the small case designed to accompany the *Manual of Family Medicine for India*, and which are referred to in the large type on the treatment of the various diseases (Chapters II. and III.), are fourteen in number. They have been selected with special regard to economy of means and space, and to efficiency, as being the medicines most useful in non-professional hands, *until other remedies, as mentioned in the small type, or professional aid, may be procurable.* The list of the contents of the small medicine case is as follows. The English or more common names are first given, opposite which the Latin terms are inserted; so that, in procuring the medicines, both names being used, there cannot be a mistake.

1. AMMONIA, AROMATIC SPIRITS
OF, OR SAL VOLATILE . . . *Spiritus Ammoniac Aromaticus*
2. BROMIDE OF POTASSIUM . . . *Bromidum Potassii*
3. CHLORAL *Chloral Hydras*
4. CHLORODYNE *Chlorodyne*

- | | |
|------------------------------------------------------------------------------|--------------------------------------------------|
| 5. DOVER'S POWDER, OR COM-
POUND POWDER OF OPIUM
AND IPECACUANHA . . . | <i>Pulvis Ipecacuanhæ Compositus</i> |
| 6. ETHER, NITROUS SPIRITS
OF; OR SWEET SPIRITS OF
NITRE | <i>Spiritus Ætheris Nitrosi</i> |
| 7. GINGER, TINCTURE OF, STRONG | <i>Tinctura Zingiberis Fortior</i> |
| 8. IPECACUANHA POWDER . . . | <i>Pulvis Ipecacuanhæ</i> |
| 9. IPECACUANHA WINE . . . | <i>Vinum Ipecacuanhæ</i> |
| 10. MAGNESIA, CITRATE OF, GRA-
NULAR EFFERVESCENT . . | <i>Magnesiae Citras (Granular)</i> |
| 11. OPIUM, CAMPHORATED TINC-
TURE OF; OR PAREGORIC . | <i>Tinctura Camphoræ Composita
cum Opio</i> |
| 12. PODOPHYLLUM RESIN PILLS {
COMPOUND } | <i>Podophylli Resinæ Pilula, com-
posita</i> |
| 13. QUININE, SULPHATE OF . . | <i>Quinice Sulphas</i> |
| 14. SODA, SULPHATE OF . . . | <i>Sodæ Sulphas</i> |

Note.—No. 12, *Podophyllum*, is not carried in the case in the pure form, but it is recommended made into pills of which it forms the most active ingredient; vide p. 16, and Recipe 1.

The medicine case also carries a minim measure, a box of scales and weights, and a small knife, or spatula.¹

Various other medicines, ordinarily procurable in the Indian bazaars, have been also recommended in the large type for use on emergency. The list of these medicines is as below, and the Hindustanee name is given opposite the English one:—

- | | |
|--------------------------------------------------------------------------------------------------------|------------------------------|
| 1. ALUM | <i>Phitkarree</i> |
| 2. AMMONIUM, CHLORIDE OF, OR HYDRO-
CHLORATE OF AMMONIA; also com-
monly called SAL-AMMONIAC . . | <i>Naushadur or Nissadal</i> |
| 3. ASSAFOETIDA | <i>Hing</i> |
| 4. BAEL, OR ÆGLE MARMELON . . . | <i>Bael</i> |
| 5. CASTOR OIL | <i>Rindee ka Tail</i> |
| 6. CAMPHOR | <i>Kafoor</i> |

¹ The instruments mentioned at the commencement of Chapter III., for use in surgical cases, should also be provided.

7. IRON, SULPHATE OF; also COPPERAS,
OR GREEN VITRIOL *Hera-kusees*
8. POMEGRANATE *Anar*
9. POTASH, NITRATE OF, OR SALT-
PETRE *Shora*
10. SENNA *Senna Mukki*
11. STRAMONIUM *Dhatura*
12. SULPHUR *Ghunduk*

The appearance, use, action, and doses of the medicines above enumerated are detailed at pages 8 to 28.

It has not been considered necessary to describe the medicines which are recommended for use in the *small type*, which must be obtained from the chemists, as the person using the Manual will not be required to manipulate them.

It should be clearly understood that the treatment of illness by the medicines in the case, or by medicines obtainable from the bazaar, as advised in Chapters II. and III., is not intended to take the place of medical assistance and advice; but it is offered as a substitute when such aid is not obtainable, and as the method by which improper treatment may be avoided.

COMPOUNDING OF MEDICINES

Weights and Measures used in Compounding Medicines

Weight for Solids

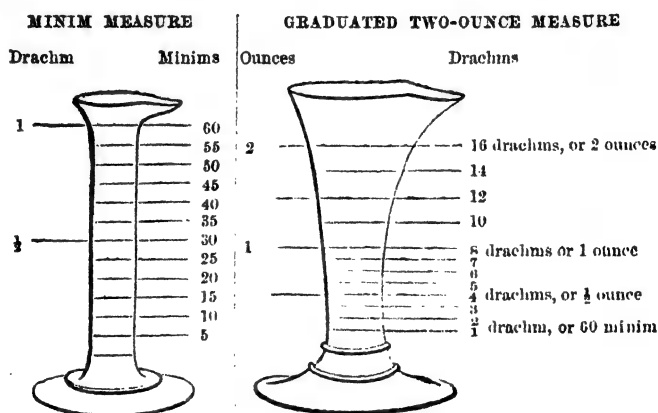
20 grains make	.	.	.	.	.	1 scruple
3 scruples „	.	.	.	.	.	1 drachm
8 drachms „	.	.	.	.	.	1 ounce
12 ounces „	.	.	.	.	.	1 pound

The grain weights, except the half-grain, are stamped with as many dots or circles ○ as they weigh grains; one mark on the one-grain, two on the two-grain weight, and so on. On the half-grain weight are the figures $\frac{1}{2}$. The larger weights are marked in English, and in the old symbolical characters.

Measure for Fluids

60 minims make	.	.	.	.	.	1 drachm
8 drachms „	.	.	.	.	.	1 ounce
20 ounces „	.	.	.	.	.	1 pint
8 pints „	.	.	.	.	.	1 gallon

Glass measures as sketched below are placed in all medicine chests large enough to admit them:—



When the quantity of fluid medicines is so small that it cannot be measured by minims, *drops* are ordered, which should be poured from the bottle accurately. The bottle should be held obliquely, with the lower part of the lip resting against the stopper. The bottle should then be carefully tilted, when the contents will drop from the lower edge of the stopper. A little practice will enable any person to drop one or more drops with exactness (*vide* p. 5).

It should be remembered that drops do not necessarily equal minims, as fluids vary in density; as, for instance, oil and water. The size of the mouth of the bottle, and the manner in which the fluid is manipulated, may also vary the size of the drops. The best plan is, therefore, to obtain a *glass medicine dropper*, by which greater accuracy is insured. Measurement of fluids by the minim glass

DESCRIPTION OF MEDICINES

should, however, always be adopted, unless the medicine is required in very small quantities.

The following is a rough measurement of fluids approximating to the apothecaries' measure for fluids (*vide*



p. 4). This rough measurement is sufficiently accurate for giving out doses of ordinary mixtures, the active ingredients in which are diluted by water; but it should *not* be used to compound medicines, or to measure them in the undiluted condition, as the size of spoons, even of the same class, is liable to vary.

1 tea-spoonful	.	.	= one drachm
1 dessert-spoonful	.	.	= two drachms
1 table-spoonful	.	.	= four drachms, or half an ounce
1 small wine-glassful	.	.	= about two ounces

In COMPOUNDING MEDICINES distilled water should be used. If this cannot be procured, water which has been purified by boiling and filtering (*vide* Chapter VI., *Water*, or refer to *Index*) should always be used, and the measures, knives, &c., should be kept perfectly clean.

DOSES OF MEDICINES

Unless expressly stated to the contrary, the doses mentioned in the account of diseases, and in the collection of prescriptions (*vide* Appendix), are those adapted for an ordinary strong adult. The younger and less robust the

child the smaller is the dose necessary, and delicate females usually require a less powerful agent than stronger women, or than those of the other sex.

The following table shows the approximate doses of medicines for different ages. For solids the scales and weights must be used, according to apothecaries' weight (*vide* p. 3). For fluids the measures must be used (*vide* p. 4), and *minims* must be substituted for grains, according to apothecaries' measure (*vide* p. 4). Below five minims drops should be given (*vide* p. 4).

Age above	Maximum dose one ounce	Maximum dose one drachm	Maximum dose one scruple
1 month	24 grains	3 grains	1 grain
6 months	2 scruples	5 grains	1½ grain
1 year	1 drachm	8 grains	2½ grains
2 years	1¼ drachm	9 grains	3 grains
3 "	1½ drachm	12 grains	4 grains
5 "	2 drachms	15 grains	5 grains
7 "	3 drachms	20 grains	7 grains
10 "	½ ounce	½ drachm	½ scruple
12 "	5 drachms	40 grains	14 grains
15 "	6 drachms	45 grains	16 grains
20 "	7 drachms	50 grains	18 grains
21 "	1 ounce	1 drachm	1 scruple

It appears by the table that, if the dose of any medicine for a man of twenty-one years of age is 1 ounce (maximum dose), then the dose of the same medicine for a child above one month is 24 grains, or 24 minims if a

fluid; for a child above five years of age, 2 drachms; and for a child above ten, half an ounce. Or, if 1 scruple, or of fluid 20 minims, is the maximum dose for a full-grown man, then the dose of the same medicine for a child seven years old will be 7 grains of a solid medicine, and 7 drops of a fluid medicine; and for a child one month old 1 grain, or 1 drop.

The above may be accepted as for ordinarily strong children; but when dealing with weakly children it may be advisable to lessen the quantities by one-sixth up to one year of age, and by one-eighth from one year to ten years of age.

Independent of the differences which exist between the doses suited for an adult male and a delicate female, as mentioned above, other circumstances, as *habit, disease, climate, mind, temperament, race, and idiosyncrasy*, must often be considered when regulating the dose. Thus children are peculiarly susceptible to the influence of opium, very minute quantities having proved fatal to infants; and unfortunately opium is the powerful agent in various 'soothing syrups' and 'cordials' sold for children. In this book preparations containing opium are rarely, and always most cautiously, prescribed for children. Habit will enable certain people to consume large quantities of opium, arsenic, and of some other substances: in certain maladies—as, for instance, *senile gangrene*—large doses of opium produce little effect. In a tropical climate it is sometimes undesirable to use purgatives with the freedom with which they may be given in other latitudes; and especially so if cholera prevails. Mercury is borne best in hot climates, as the more free perspiration carries it out of the system; while opium is not so well tolerated because the heat increases the determination to the head. Alcohol stimulants follow the same rule, being more injurious in hot than in cold climates. A peculiar temperament often forbids an energetic treatment proper for other persons. Natives of India, as a rule, require smaller doses than Europeans. Lastly, idiosyncrasy is illustrated by the smallest particle of mercury sometimes producing salivation (*vide note to Recipe 23*), by iodide of potassium occasionally exciting symptoms of *coryza* (*vide note to Recipe 21*), by quinine causing sore-throat and eruptions on the skin (*vide p. 18*), by *assafoetida* sometimes causing faintness (*vide p. 22*), by *ipêcacuanha* producing cough, sneezing, and watering of the eyes and nose (*vide p. 14*), by *santonin* occasioning red-coloured urine, and green or yellow vision (*vide p. 486*), and by pollen exciting hay asthma (*vi.*

p. 64). It is not, however, medicines only which produce extraordinary effects on peculiar constitutions. There are persons who cannot eat celery, shell-fish, oatmeal cakes, strawberries, apples, mushrooms, or cucumber without suffering from nettle-rash or colic. There are persons with whom neither milk, eggs, nor mutton agrees. Others cannot take sherry without suffering from acidity, and the slightest quantity of port wine sometimes excites gouty pains.

DESCRIPTIONS OF MEDICINES

The appearance, action, principal uses, and doses of the various medicines carried in the case are now noted. The prescriptions referred to by number in the account of medicines, and in the treatment of diseases, will be found in the Appendix of Prescriptions at the end of the volume.

1. AMMONIA, AROMATIC SPIRITS OF ; or SAL VOLATILE (*Spiritus Ammoniae Aromaticus*).—Aromatic spirits of ammonia is a nearly colourless liquid, with strong ammoniacal odour and pungent taste. It is a strong stimulant, producing a sensation of warmth at the pit of the stomach, and an agreeable glow throughout the body. It is used in hysteria, headache, nervous disorders, giddiness, palpitation, fainting, and in some forms of dyspepsia, as heartburn, flatulence, and acidity of the stomach. It is also very useful for children; especially for infants, who, generally owing to bad or over feeding, may be tormented by wind, or by colicky pains in the bowels. The dose for an adult is half a drachm to a drachm, in half an ounce to an ounce of water. To children of from one to three months old, from 1 to 2 drops may be given; from three to six months old, 2 to 5 drops; from six to twelve months old, 5 to 8 drops in a tea-spoonful of water; or in sufficient water to reduce the strength, so that it may be easily swallowed. It should be kept in a stoppered bottle. Aromatic spirits of ammonia enters in Recipes 26, 38, 39, 40, 51, 55, 56.

2. BROMIDE OF POTASSIUM (*Bromidum Potassii*).—

It consists of white cubical crystals without odour, of pungent saline taste, and soluble in water. As it is affected by damp it must be kept in a stoppered bottle. It exercises a sedative action on the nerves generally, and especially on those supplying the back part of the mouth, throat, and entrance to the windpipe. It is useful for persons suffering from overwork, worry, despondency, and *insomnia* or inability to sleep, and in delirium tremens. It is given with great benefit in hysteria, epilepsy, for the 'night terrors,' and for the convulsions of children. It is employed advantageously for the vomiting of pregnant women, for spasmodic cough, and for spasmodic asthma, also for nervous headache, or *migraine*. It is also recommended as diminishing the spasms of tetanus and of poisoning by strychnine. Lastly, it is sometimes given for glandular swellings. In too large or too frequently repeated doses, it lessens the force and frequency of the heart's action and causes mental weakness, somnolence, and depression. It also occasions dryness, soreness, and loss of sensibility in the throat. There may also be an eruption of pimples, chiefly on the forehead and face, and which eventually contain matter. To this full effect of the medicine the term 'bromism' is applied. The dose for an adult is from 5 or 6 to 30 grains in an ounce, to two or three ounces of water; the first if given repeatedly, the latter if used to allay sudden convulsive seizures. For a child the dose, if given repeatedly, varies from 1 grain at one year old to 2 grains at four years old in two or three tea-spoonfuls of water; increasing the dose by a quarter of a grain for each year of age. In convulsive seizures three times the quantity may be given. For children, it may be mixed with an equal quantity of salt and given at the meals, without the child being aware that it is taking medicine. Bromide of potassium enters into Recipes 19, 20.

3. **CHLORAL** (*Chloral Hydras*).—It is a white crystalline substance, generally seen in small pieces about the size of a pea, but sometimes in much larger flakes. It has a pungent odour, and a cool acrid taste, rapidly melting on the tongue. In small doses chloral exerts a calmative influence over the system. In larger doses it induces sleep, which usually comes on in less than half an hour after taking chloral, and is generally calm and refreshing, yet not so profound as to prevent waking to cough, take food, &c. It is given in many cases instead of opium to procure sleep, and it differs from opium in its action in not producing any excitement of the system; nor usually any subsequent giddiness, headache, nervous depression, loss of appetite, or constipation, so often following the use of opium. First doses are, however, more likely to be followed by some feelings of the kind than when the person has become accustomed to the medicine. Chloral has also a further advantage over opium, as the dose does not need to be so steadily increased to produce the same effects. It has been used for neuralgia, rheumatism, sea-sickness, convulsions, asthma, cough, tetanus, delirium tremens, nervous irritability, spasmodic complaints, for the wakefulness induced by mental fatigue, and in most other diseases characterised by restlessness and want of sleep.

As cases of poisoning have occurred from chloral, and as the drug acts more strongly on some persons than on others, it must always be used with caution. In diseases of the chest attended with profuse expectoration, especial caution is required in the use of chloral, as, if given in too large quantities, the soporific effect may prevent the patient expectorating, and thus increase difficulty of breathing. The use of chloral is also contra-indicated when the heart is weak. The ordinary dose for an adult is from 5 to 10 grains as a calmative, and from 15 to 40

when required to produce sleep. After 20 grains the dose should be increased *cautiously*, by 5 grains at one time, up to 40 grains if necessary. A person in the habit of drinking spirits will require a larger dose of chloral than one unaccustomed to alcoholic drinks. Those debilitated and enfeebled by almost any cause require a smaller dose than stronger persons. Chloral is best given dissolved in a little sugar and water. A convenient form of chloral is the *Syrup of chloral*, sold by the chemists, of which one fluid drachm contains 10 grains of chloral. The usual dose for children is 1 grain; or 7 drops of the syrup (which should contain 1 grain) for each year of the child's age. Sometimes, especially in children, even one dose of chloral causes a rash resembling *erythema* (*vide* p. 386). It comes on, about half an hour or longer, after taking the medicine, and is of no consequence. Chloral enters into Recipe 54.

POISONING BY CHLORAL.—Chloral is not a medicine which can be taken habitually with safety. For the habit of chloral-drinking is one which grows upon the person indulging, so that he cannot sleep without the drug, the result being the production of a condition, from chloral-drinking, as pitiable as that arising from either opium or spirits. The person suffers from languor and weakness, the heart's action becomes weakened, and he complains of shortness of breath on walking. The will becomes enfeebled, and there is profound melancholy. Red patches appear on the skin, especially on the face and about the nose, known as the 'chloral rash,' and sometimes there are swellings on other parts of the body, resembling scurvy.

The effects of an over-dose of chloral are swimming in the head, flushed face, closed but blood-shot eyes, and sometimes cramps in the legs. When the dose is still larger, there is insensibility from which the person cannot be roused, the pulse is quick, and the face flushed, afterwards becoming livid, while the pupils of the eyes are contracted, and the breathing is of a snoring character. The treatment is a mustard emetic (Recipe 54) if the patient can swallow, otherwise the throat should be tickled with a feather to excite vomiting. Mustard plasters should be applied to the calves of the legs; the feet, hands, and arms should be well rubbed; the warmth of the body should be maintained by blanket covering, and artificial respiration (*vide* p. 542) should be used.

A medical man would probably inject solution of atropia beneath the skin.

4. **CHLORODYNE** (*Chlorodyne*).—A dark-coloured thick fluid containing morphia, chloroform, Indian hemp, hydrocyanic acid, peppermint, and spirit. It is agreeable to the taste, and very useful in slight disorders, such as stomach spasms, flatulency, griping, also for simple bronchial and asthmatic affections. In the use of chlorodyne reference must be had both to the age of the patient and to the urgency of the symptoms, also to the effect desired to be produced. The following scale of doses may be adopted for adults :—

Anodyne and Diaphoretic, 5 to 15 drops.—In Coughs, Colds, Influenza, Agues.

Sedative and Anti-Spasmodic, 10 to 25 drops.—In Asthma, Bronchitis, Spasms, Cramp, Sea-sickness.

Astringent, 15 to 30 drops.—In Cholera, Dysentery, Diarrhoea, Colics.

FOR CHILDREN

Age		Dose		Age		Dose
1 month to 3	.	1 drop to 2		3 years to 5	.	3 drops to 8
3 months to 6	.	2 drops to 4		5 „ 8	.	4 „ 10
6 „ 12	.	2 „ 5		8 „ 12	.	8 „ 12
1 year to 3	.	3 „ 6		12 „ 16	.	10 „ 20

Chlorodyne may be taken in water, tea, or any convenient fluid, or in small quantities dropped on sugar, and repeated in diminished doses every two or three hours, until the desired effect is produced. Chlorodyne enters into Recipe 33.

Caution.—The chlorodyne bottle should be kept well corked, and be well shaken previous to use ; otherwise the thick portion falls, and an unequal dose results.

5. **DOVER'S POWDER; OPIUM AND IPECACUANHA POWDER, COMPOUND**, commonly called **DOVER'S POWDER** (*Pulvis Ipecacuanhæ Compositus*).—This medicine is placed under its popular name, 'Dover's Powder,' to render the

difference between ipecacuanha powder (*vide* p. 14) and compound ipecacuanha powder (ipecacuanha powder with opium—*Dover's powder*) more apparent. Compound ipecacuanha powder is of a light yellowish-grey colour. Containing both ipecacuanha and opium, also a considerable proportion of sulphate of potash, it is useful in a great variety of complaints, particularly in chest affections, and in maladies such as rheumatism, when action on the skin is desirable; the ipecacuanha and the opium mutually aiding the separate influence which is induced by each medicine. In malarious seasons or localities, when the bowels are disturbed with a feverish condition of system, a combination of *Dover's powder* and quinine is often very beneficial. After taking *Dover's powder* the patient should be kept warm, and to prevent nausea, which may arise from the ipecacuanha, nothing should be drunk for some little time. The dose for adults is 5 grains if given repeatedly; 10 grains if given at long intervals. For a child three months old, from a quarter to half a grain; after a year old, 1 grain; increasing the dose by a quarter of a grain for each year of age. Compound ipecacuanha powder contains 1 grain of opium and 1 grain of ipecacuanha in every 10 grains of the powder. When required for use the quantity must therefore be carefully weighed. Compound ipecacuanha powder enters into *Recipes* 17, 18.

6. ETHER, NITROUS, SPIRITS OF, or SWEET SPIRITS OF NITRE (*Spiritus Ætheris Nitrosi*).—A transparent liquid, with slight yellow tinge, affording an apple-like odour, and of sweet, sharp, cooling taste. It stimulates the skin, leading to increase of perspiration, and it acts on the kidneys, promoting the secretion of urine. It is thus useful in complaints such as colds, fevers, and inflammations, when there are dryness of the skin and scanty urine. The dose for an adult is from 30 to 60

minims. For a child six months old, 3 to 4 drops; one year old, 6 to 8 drops. Spirits of nitrous ether enter into Recipes 20, 30, 38, 50, 51, 52, 53, 55, 57.

7. GINGER, TINCTURE OF, STRONG (*Tinctura Zingiberis Fortior*).—Strong tincture of ginger, sometimes called *essence of ginger*, is of a bright, slightly yellowish colour. The principal use of tincture of ginger is as a warm stomachic, in diarrhoea, flatulence, and colicky pains, especially if accompanied by hysterical or nervous symptoms. It is also given with other medicines of a cold nature, as acids. It is useful, diluted with about 30 parts of water, as a gargle for sore-throat. The dose is from 5 to 20 drops for an adult. For a child one year old, from 1 to 4 drops. Tincture of ginger enters into Recipes 2, 32, 34, 37, 38, 43, 49, 55, 69, 101.

8. IPECACUANHA POWDER (*Pulvis Ipecacuanha*).—Powdered ipecacuanha is the pulverised root of the ipecacuanha plant. It is a pale brown powder, with faint nauseous odour. It is of importance that the powder should be fresh, as it soon deteriorates by keeping. In large doses ipecacuanha powder is the most valuable and safe of all vegetable emetics. In smaller doses it acts on the skin, exciting perspiration, and on the wind-pipe and tubes leading to the lungs, promoting expectoration. Ipecacuanha is used chiefly as an emetic; in large doses in the treatment of dysentery; and in smaller quantities in cough, bronchial, and lung affections. It is often useful in checking the vomiting of pregnancy. In exceptional instances ipecacuanha, or even the smell of it, excites cough, sneezing, and watering of the eyes and nose, pain in the forehead, and a feeling of oppression at the chest. The dose of powdered ipecacuanha for an adult is, as an emetic, from 20 to 30 grains; for a child of one year old, from $2\frac{1}{2}$ to 3 grains. As an expectorant, or to act on the skin, 1 grain for an adult, and the twelfth

of a grain for a child. Powdered ipecacuanha enters into Recipes 12, 13, 17, 24, 58.

9. IPECACUANHA WINE (*Vinum Ipecacuanhæ*).—Ipecacuanha wine resembles sherry in appearance, and has a vinous, slightly bitter taste. Its action is the same as powdered ipecacuanha, viz. emetic in large doses, diaphoretic and expectorant (that is, increasing perspiration and expectoration) in small doses. Mixed with an equal quantity of water and converted into spray by an ordinary spray-producer, it is often found useful in chronic, bronchial, and asthmatic affections. Ipecacuanha wine, being a liquid, is better adapted for children than the powder. The dose of ipecacuanha wine *as an emetic* for an adult is from 6 to 8 drachms in a pint of warm water. For a child six months old, half a drachm in one ounce of water; at one year old, 1 drachm in two ounces of water, increasing the dose by a quarter of a drachm of tincture, and half an ounce of water, for each year of age; the dose to be repeated every quarter of an hour till vomiting results. To act on the skin, or to promote expectoration, from 10 to 20 minims for an adult. For a child 1 drop at one month old; 2 drops at six months old, increasing the dose by 1 drop for each year of age. Twenty minims of ipecacuanha wine are reputed to contain one grain of ipecacuanha, but the strength of the preparation varies, being often more powerful than the officinal computation. Ipecacuanha wine enters into Recipes 51, 57, 60.

10. MAGNESIA, CITRATE OF, GRANULAR EFFERVESCENT (*Magnesia Citras [Granular]*).—Is composed of light, white, rough-looking granules, of agreeable, slightly acid taste. Placed in water it effervesces briskly. One or two dessert-spoonfuls or more, put into a tumbler half full of water, will prove a mild but efficient aperient. For feeble persons, 20 drops of tincture of ginger may be added. A small tea-spoonful taken in a wine-glassful of

water will act both as an antacid and as a cooling draught. Half a tea-spoonful with twenty minims of spirits of nitric ether, in one ounce and a half of water, forms a cooling febrifuge draught which may be taken during the hot stage of fevers. A cooling and refreshing drink may be made by adding to a tumblerful of cold water, sweetened with sugar, a small quantity of the citrate. The absence of nauseous taste renders it a favourite aperient and febrifuge for children. At one year old the dose would be one-eighth of the above-mentioned quantities.

11. OPIUM, CAMPHORATED TINCTURE OF, commonly called **PAREGORIC** (*Tinctura Camphoræ composita cum Opio*).—A light-coloured liquid, made by macerating opium, benzoic acid, camphor, and anise, in spirits of wine. The combination of other drugs with opium renders this a very useful preparation for cough, bronchial irritation, hooping cough, and chest complaints generally, especially when a cough is hacking and wearisome, and expectoration scanty. It contains two grains of opium in every ounce of the tincture, and therefore must be carefully measured. The dose for an adult is from 30 minims to 1 drachm, and if used alone it may be taken on white sugar. It is, however, more efficacious in combination with other remedies, as spirits of nitrous ether, and ipecacuanha wine. The dose for a child one month old is 1 drop; at six months old, 3 drops; at one year old, 6 drops; 1 drop being added for each year of age up to twelve, and 2 drops afterwards up to twenty years of age. Camphorated tincture of opium enters into Recipes 56, 57, 59, 60, 62.

12. PODOPHYLLUM RESIN PILLS, COMPOUND.—As podophyllum is not carried in the medicine case (*vide* p. 2) it need not be described. Its action is aperient, exerting a special influence on the liver. Hence it is useful for constipation, for torpor of the liver, and for other chronic liver affections. It is seldom given alone, but

generally in combination with other medicines which add to its efficiency. Podophyllum resin has been chosen as the active ingredient of the only aperient pills carried in the small medicine case to accompany this volume, as being on the whole better adapted to the purpose than any other agent. (*Vide* p. 2, and the remarks attached to Recipe No. 1, Appendix.)

18. QUININE, SULPHATE OF (*Quinia Sulphas*).—Sulphate of quinine is made by submitting cinchona bark to a chemical action by sulphuric acid. Pure sulphate of quinine presents the appearance of silky, snow-white crystals of an intensely bitter taste, sparingly soluble in water, and imparting to it a peculiar bluish tint.

The following tests determine whether a specimen of quinine is pure or adulterated: It dissolves in pure sulphuric acid with a feeble yellowish tint. Ten grains, with 10 minims of dilute sulphuric acid and an ounce of water, should form a perfect solution. A reddish tint with sulphuric acid indicates adulteration with salicin; a black tint evidences sugar. Heated to a red heat on the blade of a knife held over a spirit-lamp, it is entirely destroyed and disappears, leaving only a black mark.

The precise manner in which quinine acts is not thoroughly understood; but as a substance very much resembling quinine has been found in the healthy blood, it is possible quinine supplies some constituent to that fluid which is deficient, particularly in malarious febrile diseases. It dulls the sensibility of the nervous system, and renders the nerves less susceptible to malarious influences. It exerts a certain power in reducing the temperature of the body. It has also an antiseptic power and arrests putrefaction. In addition to the influences exerted on the general system, quinine has also a well-ascertained influence over the digestive organs. It gives rise to a slight increase of the flow of gastric juice into the stomach, and of other secretions into the intestines.

Quinine will sometimes act on the womb, so that it should be given with caution to pregnant women; and not

at all if there is any peculiar susceptibility (as noted below) to the influence of quinine.

Quinine acts very differently on various constitutions, some persons taking large doses without appreciable effect, others suffering more or less from various unpleasant effects after taking very small doses. These effects are : singing in the ears, noises in the head, deafness, headache, flushed face, bloodshot eyes, dimness of sight, eruptions on the skin resembling 'nettle-rash,' sore-throat, difficulty of breathing. In exceptional cases even a grain of quinine has been known to excite such results. Or, one too large dose may act as a succession of smaller, and cause such unpleasant symptoms. These effects of large or repeated doses of quinine are known as 'cinchonism.' They generally pass off altogether in a few days, but sometimes permanent singing in the ears or slight deafness remains.

The principal uses of quinine are as a remedy for so-called malarious fevers ; for neuralgic or rheumatic affections, especially when they assume a periodical form, recurring at intervals of hours or days ; and as a general and digestive tonic, in various forms of debility and dyspepsia. The influence excited on the digestive organs, together with the power of retarding putrefaction, before alluded to, renders quinine serviceable in various forms of dyspepsia marked by flatulence and acidity, and in all cases of weak digestion, especially during the convalescence from acute diseases.

Quinine is also useful as a prophylactic, or preventive of malarious diseases. During unhealthy seasons, or in malarious localities, persons would do well to take a grain or two of quinine daily, either as Recipes 67, 69, 76, or in a little sherry wine.

As a rule, quinine should not be given until the bowels, if costive, have been cleared by laxative medicine.

Regarding the employment of quinine in fevers, the rule that the bowels should be previously opened holds good. Also, quinine should not be ordinarily given during either the cold or hot stages of fever. Except under medical advice, it will only be right to prescribe quinine when the fever has abated, when perspiration has commenced, and when the pulse is soft and the skin cool. It should not be given (except under medical advice) when there is headache, high fever, quick pulse, and dry skin. But as soon as perspiration occurs, presuming the bowels in proper condition, quinine may be administered with advantage. It is usually given in solution with lemon-juice or sulphuric acid (Recipes 67, 69). But when the taste is very objectionable to the patient, or when irritability of the stomach exists, it may be used in the form of pills made up with a little gum-arabic. But quinine pills should always be freshly made, as if kept more than a week or so they become hard and useless. It sometimes happens that quinine will not produce its full effect until the whole system has been alkalisied, and it is therefore advisable to give, as well as quinine, during fevers, some alkaline medicine, as Recipe 35 or 36, or citrate of magnesia (*vide* p. 15). Sufficient quinine will have been taken when singing, or other noises in the ears, or slight deafness occurs, when the medicine should be reduced in quantity, or altogether stopped. The dose of quinine given repeated during fevers is for adults from 5 to 10 grains, or a larger amount may be given at one time, up to 15 or 20 grains, when it is desired to attempt to check a fever. For children, from half a grain upwards is the dose, according to the table of proportions (*vide* p. 6), counting the maximum adult dose at 10 grains or half a scruple. When quinine is given to aid digestion, or as a tonic for debility, 2 or 3 grains will be the suitable dose for an adult.

Quinine enters into Recipes 3, 17, 18, 66, 67, 69, 76.

Cinchona bark contains other matters, besides quinine, which have an influence over malarious fevers. A preparation called *Cinchona febrifuge*, or *mixed cinchona alkaloids*, is manufactured at the Government cinchona plantations in India, which may be used in most cases when quinine is required, the only objection being that in some people nausea follows taking it in large doses. It is best given with sulphuric acid, and may be substituted for the quinine in Recipe 60 when quinine is not available.

14. SODA, SULPHATE OF (*Sodæ Sulphas*).—Sulphate of soda, better known as ‘Glauber’s salt,’ usually occurs in the form of oblique, rhombic, transparent prisms; but sometimes it is seen in a less pure condition in the shape of small acicular crystals. Sulphate of soda is a saline purgative, producing watery stools, and acting, to a slight degree, on the kidneys. Like many other salines, when given in large doses, it slightly lowers the pulse, weakens the blood, and depresses the system. Hence it is termed a cooling purgative, and is adapted for use in inflammations, excepting inflammation of the bowels, and in fevers. With senna it may be used, instead of the more nauseous and powerful purgative *sulphate of magnesia* or ‘Epsom salts,’ to form a combination in common use known as ‘black draught.’ Being less powerful in its action and less nauseous than Epsom salts, it is more fitted for use by delicate persons, and in all cases where a mild aperient is desirable. By increasing the quantity it acts as energetically and less unpleasantly than ‘salts,’ and is therefore prescribed in this manual instead of the latter medicine. The success of Carlsbad, Friedrichshall, and Hunyadi Janos water, in the treatment of various diseases, depends much on the sulphate of soda contained in these mineral waters; and, if available, they may often be used instead of sulphate of soda, the water last mentioned having the advantage of being nearly tasteless. The dose of sulphate of soda for an adult is from half an ounce to one ounce in water,

and the taste may be much disguised by a tea-spoonful of lemon-juice, or by 8 or 10 drops of *dilute* sulphuric acid. It should be kept in a stoppered bottle. Sulphate of soda enters into Recipes 2, 3, 4, 26, 73.

The appearance, properties, doses, and principal uses of the medicines which are recommended as procurable in the bazaars are now noted.

1. **ALUM.** Hindustanee: *Phitkari*.—When pure, alum is a colourless, crystalline, semi-transparent mass, having an acid, sweetish, astringent taste. The bazaar alum, when not pure, may be rendered fit for medicinal purposes by dissolving it in distilled water, straining, and evaporating the solution so as to obtain crystals of alum, which form as the water evaporates or ‘dries up.’ If distilled water cannot be obtained, water which has been boiled should be used. Alum is a powerful astringent causing the tissues with which it comes in contact to shrink and contract, and thus closing the orifices of bleeding or secreting vessels and ducts. It is used as a lotion for ulcers when there is fear of ‘proud flesh’; as a gargle for sore or ulcerated throats; as an application to the eyes in ophthalmia; as a wash for sore nipples; and as an injection. It is seldom used internally, but it is beneficial in diarrhoea and other chronic discharges. Alum enters into Recipes 42, 48, 97, 100.

2. **AMMONIUM, CHLORIDE OF**; or **HYDROCHLORATE OF AMMONIA**, commonly called *Sal-Ammoniac*. Hind.: *Naushadur* or *Nissadel*.—It occurs in the form of colourless, inodorous, translucent, tough, fibrous masses, difficult to pulverise, but soluble in water, and of a salt cold taste. When taken internally in eight- or ten-grain doses daily, it exerts an alterative effect. In large doses it is stimulant, acting chiefly on the glandular structures. It has been used with advantage in chronic affections of

the liver and spleen, in neuralgic affections of the head, in rheumatic affections, and in amenorrhœa. Locally, it is applied as a lotion to enlarged glands or swellings. Its principal use is the formation with nitre of a cooling lotion or a freezing mixture. (*Vide* Recipe 83.)

3. **ASSAFŒTIDA** (*Assafœtida*). Hind.: *Hing*.—*Assafœtida* is the gum resin of a plant growing in Persia and Northern India. It occurs in the form of irregular masses partly composed of 'tears,' of a dark pink, or, if long kept, of a dull yellow colour. *Assafœtida* is stimulant and antispasmodic, and is useful in hysteria, flatulence, and in the nervous affections of females. The dose is from 5 to 10 grains, but it is generally given in combination with other remedies, and is mostly used as an injection. In exceptional instances, *assafœtida* excites giddiness or even fainting. It is rarely used for children. *Assafœtida* enters into Recipe 105.

4. **BAEL** (*Ægle Marmelos*, called also *Stone Apple*). Hind.: *Bael geerie*.—A tree growing in India, the fruit of which is used medicinally. The fruit is about the size of an orange, with a hard woody rind, divided inside into ten or fifteen cells, containing a quantity of seeds and tenacious transparent pulp. It has a mild turpentine-like smell and taste. It contains tannic acid, and therefore acts as an astringent to the bowels, and is also slightly aperient; a union of qualities not found in other astringents. It is useful in chronic diarrhœa and dysentery. Also in that irregularity of the bowels so often presenting in children, marked by alternations of diarrhœa and constipation. The decoction and the syrup are the best forms for taking bael.

The decoction is made as follows: Boil 3 ounces of the dried fruit—or, if obtainable, 1½ ounce of the half-ripe fruit, discarding rind and seeds—in a pint of water until it evaporates to one half-pint. The dose is a wine-glassful for an adult three or four times daily. Syrup of bael

is prepared by adding a wine-glassful of water and a tea-spoonful of sugar to the soft juicy part of half a moderate-sized bael, rejecting the stringy pieces. This may be taken three times a day.

5. CASTOR OIL (*Oleum Ricini*). Hind.: *Rindee ka Tail*.—Castor oil is prepared by pressure from the seeds of the castor-oil plant. It is a mild but efficient purgative. But care should be taken that the oil used is fresh, as if at all rancid, it causes irritation, griping, and sometimes troublesome diarrhoea. As it rarely, when fresh and good, causes griping or irritation, it is preferred for delicate persons and pregnant women, or for those labouring under disease of internal organs, forbidding the use of any powerful cathartic. In ordinary constipation it is also a good aperient, for the dose, when repeated, may be gradually lessened; whereas other purgatives become less active the longer they are used, and increased quantities are necessary. The nauseous taste of castor oil may be much disguised by taking a little lemon-juice into the mouth beforehand, or by taking it in peppermint water, or by mixing with an equal quantity of glycerine and flavouring with cinnamon. The dose is half an ounce to an ounce for adults, and from half a drachm to 2 drachms for children. It is also used as an injection. Castor oil enters into Recipes 105, 106.

6. CAMPHOR (*Camphora*). Hind.: *Kafoor*.—Camphor is the concrete volatile oil of a tree growing in China and Japan. It occurs as white translucent masses, of a crystalline structure, powerful odour, and pungent taste, followed by a sensation of cold. It has a stimulating effect on the system, also increasing the action of the skin, and thereby promoting perspiration. In larger doses it acts as a sedative antispasmodic. It has been given for a number of diseases, as hysteria, asthma, rheumatism, gout, cholera, cold in the head, whooping-cough, palpitations, but with doubtful efficacy in some.

The dose of camphor for an adult is from 2 to 3 or 4 grains. Camphor enters into Recipes 40, 41, 58, 76.

Preparations of camphor, which may be made as required, are CAMPHOR WATER (*Mistura Camphoræ*) and SPIRITS OF CAMPHOR (*Spiritus Camphoræ*). Camphor water is prepared by putting a few lumps of camphor into a bottle of distilled water and allowing it to stand for a few hours. Camphor is but slightly soluble in water, so that the latter will only absorb a certain quantity of the former. Camphor water is not used as a medicine by itself, but it is useful in compounding medicines, when camphor water may be employed instead of plain water. By compounding medicines with camphor water, attention to the purity of the water is additionally secured. *Spirits of camphor* is prepared by dissolving 1 drachm of camphor in 1 ounce and 1 drachm of rectified spirits of wine. Spirits of camphor, taken hourly in 5-drop doses, will, if used at the commencement, often arrest a cold in the head. It is also very useful in a variety of maladies, when a stimulant is required, as in the latter stages of fever, in palpitation of the heart, in hooping-cough, in asthma, in hysteria, and in painful menstruation. It is also a good external application to sprains, bruises, and for chronic rheumatism. Applied frequently, and allowed to dry on sluggish boils, it will often check their progress. The dose for an adult is from 10 to 30 minims in half a wine-glassful of water. When added to water, a white deposit forms.

7. IRON, SULPHATE OF (*Ferri Sulphas*), commonly known as *Copperas* or *Green Vitriol*. Hind.: *Hera Kusees*.—Sulphate of iron has the appearance of green crystalline masses, with faint odour and ink-like taste. All the compounds of iron, though they differ in strength, possess nearly the same medicinal properties; but some are more astringent than others. The principal use of iron preparations is in cases of debility accompanied by pallor, especially occurring in the female sex, and particularly in young girls. The red colour of the blood is due to a certain proportion of red corpuscles or granules which that fluid should contain, and which have iron as one of their chemical constituent parts. When these red corpuscles, which may be seen under the microscope, sink in quantity below the normal proportion, they are increased by giving iron as a medicine, and with their increase there is return-

ing colour, health, and strength. Iron has also an influence, indirectly, over the monthly discharges of women, and is therefore often useful in irregularities of this kind. As a rule, before giving any preparation of iron, the bowels should be acted upon by purgative medicines. It should be recollected that all preparations of iron colour the stools more or less black. It is also well to know that from peculiar idiosyncrasy (*vide* p. 7) some *few* persons cannot take iron in any form without suffering from indigestion, or pain and fulness in the head. Such symptoms following the use of iron would indicate its employment in smaller doses, or, if necessary, the stopping of the medicine altogether. After taking iron the mouth should be well washed, to prevent discoloration of the teeth.

Sulphate of iron, besides possessing the ordinary action of iron salts, is also powerfully astringent; but it may be given in most cases when iron is required. The dose for an adult is from 2 to 5 grains in 2 or 3 ounces of water; for a child, from one-sixth to half a grain in a little water. It is sometimes used externally, as an application to indolent sores, when there is a growth of flabby, pale-looking 'proud flesh,' on which it acts if applied in substance as an 'escharotic' or caustic; if used in solution it acts less strongly, or as a stimulant. Sulphate of iron is also used for disinfecting purposes (*vide* Appendix No. 128). Sulphate of iron enters into Recipes 3, 15, 72, 73.

8. POMEGRANATE (*Punica Granatum.*) Hind. : *Anar.*—Two parts of the pomegranate tree are used medicinally, in the form of decoctions—viz. the root bark, and the rind of the fruit, both fresh and dried. The dried root bark occurs in the form of quills or fragments of a greyish yellow colour externally, and yellow internally, without odour, but of an astringent, slightly bitter taste. The dried rind appears as more or less curved fragments of a

dark brown colour, and taste similar to that of the bark. The principal uses of the root bark decoction are for the destruction of tape-worm, as an astringent in chronic diarrhœa and dysentery, and as a gargle for ulcerated mouth. A decoction of the pomegranate rind is, however, a better remedy for dysentery or diarrhœa, and is also a good astringent for relaxed or sore throat.

The decoctions are made as follows: Take of fresh pomegranate root bark, sliced, 2 ounces (or dried, 3 ounces). Water, 2 pints. Boil down to a pint and strain. To be used for tape-worm, as mentioned under that heading. For bowel complaints, 1 ounce three times a day. Decoction of pomegranate rind is made in the same manner, and the dose is 1 to 1½ ounce thrice daily. A decoction made with milk instead of water is sometimes efficacious in bowel complaints. The decoction may be rendered more palatable by the addition of cloves or other aromatics. These decoctions of pomegranate root bark and fruit rind are especially efficacious in the bowel complaints of the natives of India.

9. POTASH, NITRATE OF, commonly called **SALT-PETRE** (*Potassæ Nitras*). Hind.: *Shora*.—Nitrate of potash consists of white crystalline masses, possessing a saline cooling taste. It exists in a natural state in the soil of many parts of India. Specimens found in the bazaars are sometimes not sufficiently pure for internal medicinal use, but it may be readily cleansed by dissolving it in hot water, straining, and setting the solution aside to crystallise. It stimulates the skin and kidneys, increasing perspiration and flow of urine, and so cooling the body. It is very useful in fevers, in inflammatory affections, in common colds, in rheumatism, in bronchitis, and in many other diseased conditions. The dose for an adult is from 8 to 20 grains; for a child, according to the table at p. 6, taking 20 grains as the maximum. A good cooling drink for fever may be composed of nitre 2 drachms, the juice of two limes, and water 2 pints, with a little sugar. Nitrate of potash enters into Recipes 37, 50, 52, 53, 83, 92.

10. SENNA LEAVES (*Sennæ Alexandrinæ Folia*.)

Hind.: *Senna Mukkee*.—The Alexandria or Egyptian senna is the best; the leaf is about one inch in length, greyish-green in colour, unequal at the base, of faint odour, and of sweetish taste. The leaf of the Indian senna (Tinnevely) is nearly two inches long, acute in shape, also unequal at the base, green in colour, and of sweet taste. Senna is often adulterated with a very similar-looking leaf of the *Solenostemma Argel* (native name, *Argel*). But these leaves are thicker and stiffer than senna; they are equal at the base and bitterish, in taste. Both Indian senna and *Argel* are purgative like Egyptian senna, but they gripe, which Alexandria senna rarely does. Senna is a safe and efficient purgative, well adapted for childhood, for old age, for pregnant females and for delicate persons. But it is not so well adapted for nursing women, as it may render the milk purgative, and so cause colic in the child. The taste of senna may be much disguised by sweetening the infusion and adding milk, when it much resembles ordinary tea. Infusion of senna is made by steeping 1 ounce of senna and 30 grains of ginger in 10 ounces of boiling water for one hour, and then straining. The dose for an adult is from 1 to 2 ounces. Infusion of senna with Epsom salts constitutes the once much-used ‘black draught.’

A simple, quickly prepared purgative for children may be made thus: Take of senna leaves a tea-spoonful; boiling water 4 ounces. Infuse for ten minutes. Pour off into a teacup and sweeten with sugar, and let the child drink it off, fasting, in the morning. It may be used for a child of three or four years of age.

11. STRAMONIUM (*Dhatura Stramonium*). **Hind.:** *Dhatura*.—The leaves and stems of the *dhatura*—a plant growing in India—are used medicinally. The seeds are poisonous, and very like capsicum seeds. The leaves are large, ovate, deeply cut, of a heavy odour, and of a

mawkish, faintly bitter, nauseous taste. They are only recommended for smoking to check asthma (*vide* p. 62).

A preparation of dhatara is also used as an antidote to poisoning by opium. But as this requires some time to prepare, it cannot be available except in hospitals or dispensaries where it is kept ready-made.

12. SULPHUR (*Sulphur Sublimatum*). Hind.: *Ghunduk*. —Sulphur employed in medicine is called flowers of sulphur, and is used both as an internal and an external agent. As an internal medicine it is laxative and purgative, being principally given to act on the bowels, when there are piles, or blotches and pimples on the skin. The dose for an adult is from 20 to 60 grains; for a child from 2 to 5 grains. Externally it enters into the composition of ointments, particularly for itch. Sulphur enters into Recipe 92.

Of the foregoing medicines, the following are manufactured into a very portable and palatable form termed tabloids by Messrs. Burroughs, Wellcome & Co., Snow Hill Buildings, London, who have prepared a case to accompany this volume. These tabloids may be conveniently substituted for the ordinary remedies:—

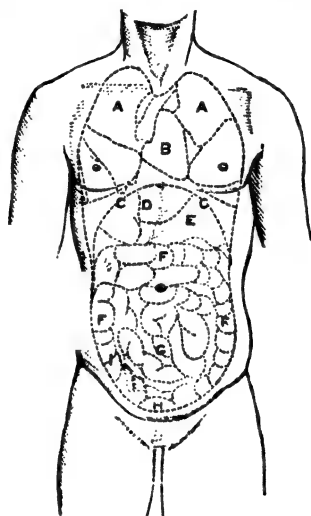
Bromide of potassium	5- and 10-grain tablets
Chloral	5-grain tabloids
Dover's powder	5-grain tabloids
Ginger, essence of	5- and 10-grain tabloids
Ipecacuanha powder	5-grain tabloids; for infants, 1 $\frac{1}{10}$ grain
Opium, camphorated tincture of (Paregoric)	15-minim tabloids
Podophyllum resin pills compound	in tabloid form
Quinine	1-, 2-, 3-, and 5-grain tabloids
Sal-volatile	tabloids of carbonate of am- monia equivalent to 1 drachm of sal-volatile
Ammonium chloride	3-, 5-, and 10-grain tabloids
Iron, sulphate of	3-grain tabloids
Potash, nitrate of	5-grain tabloids
Soda, sulphate of	half-drachm tabloids

CHAPTER II

DISEASES

INTRODUCTORY REMARKS

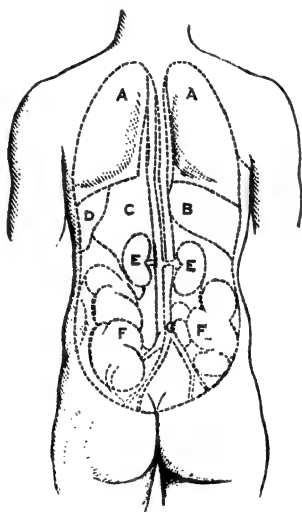
GREAT ignorance almost necessarily prevails respecting the locality or site within the body of most internal parts;



THE FRONT OF THE BODY, SHOWING,

- A A, The Lungs, one on each side.
- B, The Heart enclosed in its bag, with the great blood-vessels proceeding from the upper part.
- C C, The Diaphragm, or division between the chest, and the bowels, liver and stomach.
- D, The Liver, partly covered by the Diaphragm.
- E, The Stomach, partly covered by the Liver and Diaphragm.
- F F F, The Large Intestine, passing across the centre, down the left side, and up the right.
- G, The Small Intestines.
- H, The Bladder in the Male, and, Womb in the Female.
- I, The Cæcum.

a knowledge only to be thoroughly acquired by actual dissection, although some useful idea of the interior arrangement of organs may be obtained from plates. Therefore, before proceeding to describe the symptoms and treatment of diseases, the introduction of the accom-



THE BACK OF THE BODY, SHOWING,

A A, The Posterior part of the Lungs.

B, The Back part of the Liver.

C, The Stomach.

D, The Spleen.

The mark or line above **B**, **C**, **D**, is the Diaphragm, which is supposed to be lifted up in order to show the position of the three organs last named, as they appear at the back.

E E, The Kidneys.

F F, The Large Intestines ascending on the right side, descending on the left.

G, The course of the large artery and vein supplying all the organs with blood.

panying rough diagrams, showing the position of the principal internal organs, appears desirable. An examination of the sketches will facilitate the formation of an opinion regarding the locality of any particular pain.

Certain facts connected with the pulse, with the breathing or respiration, with the temperature of the body, and with the tongue, are of the utmost importance, and should be borne in mind when attempting to discover the nature of, or to treat disease (vide also p. 37).

THE PULSE.—The pulse is caused by the beating of the vessels (called *arteries*, *vide* p. 500) conveying the blood from the heart to all parts of the body. For convenience it is generally felt at the wrists, but may be counted in the neck, or at the thigh, or wherever there is an artery near the surface of the body. The number of beats per minute, in the healthy state, varies according to age, but may be generally accepted as follows:—

At birth and till end of the first year of age .	140	beats per minute
Infancy and till end of the third year .	120	„
Childhood or till end of the sixth year .	106	„
Youth or till end of the seventeenth year .	90	„
Adult age or till end of the fiftieth year .	75	„
Old age	70	„

The pulse may vary from this standard to some extent, and there are few persons in whom the pulse may be extraordinarily slow, or the reverse, and this naturally, without deviation from health. But as a rule, if the pulse, without previous bodily exertion (which always increases its action), is quicker by eight or ten beats than the standard, or a similar number of beats lower, there is something wrong. If higher, there will be more or less of *feverishness* present; if lower, there will be a want of tone, or *vitality* below *par*.

The educated fingers of the physician also convey, through the sense of touch, much information derived from the peculiar sensation afforded by the pulse, irrespective of the actual frequency of the beats. Thus, a *frequent* pulse, also feeling to the fingers *large and soft*, is indicative of the premonitory stages of febrile diseases. A *frequent, hard, and full* pulse accompanies inflammations. A pulse increasing in frequency after meals, or in the *evening*, indicates hectic fever. Disease of the heart is

often signified by an *irregular, jerking, or vibrating* pulse. An *intermittent* pulse may also attend heart-disease, but is often caused by indigestion, by drinking too much tea, or by smoking. A weak, *thread-like* pulse occurs in rapidly exhausting diseases, as cholera, or as a consequence of bleeding.

Physicians also judge of the pulse by a small delicate machine, called the *sphygmograph*, which traces the beatings of the pulse on paper.

THE BREATHING, or RESPIRATORY MOVEMENT.—

Breathing is consequent on the expansion and contraction of the lungs, as the air passes into, and out from, those organs. There should be no difference in the movements of the two sides of the chest. Breathing, like the pulse, is quickened by bodily exertion, and also affected by mental excitement. The number of breaths taken by a healthy adult, in a state of repose both of body and mind, is about one for every four beats of the pulse, but varies in different people from fifteen to eighteen per minute. As with the pulse, there are persons occasionally met with in whom the breathing may be either slower or quicker than the standard; but, as a rule, deviation from the numbers given during a state of rest indicates disease. If higher, there will generally be present some malady either directly or indirectly affecting the lungs; if lower, there will be debility, or loss of vital power, or nervous shock.

The breathing of children differs in some characteristics from that of adults. The bowels move more than in adults, and the breathing is much quicker, corresponding with the more rapid rate of the pulse (*vide* p. 31). Thus, a child up to two years of age breathes 35 times in a minute; from two years old to nine, 18 times during sleep, and about 23 when awake; from nine years to fifteen, 18 times during sleep, and 20 when awake.

Indications of diseased conditions may also be derived from the *smell of the breath*. In diabetes, the breath has a faint, apple-like odour; in gastric disorders, especially

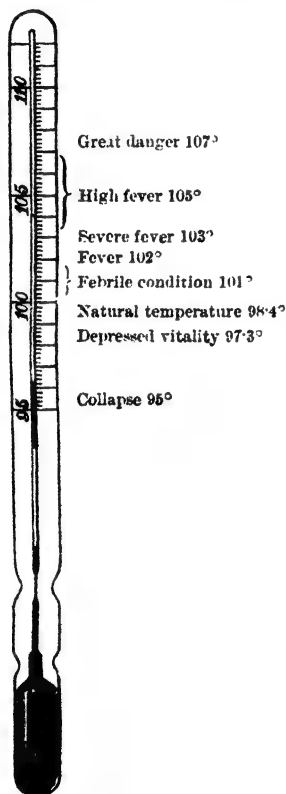
of children, there is a sour smell; in some forms of dyspepsia, a smell of sulphuretted hydrogen; in bladder and kidney affections, an ammoniacal or urinous odour; from excess in spirituous liquors, a sour and vitriol-like smell.

THE TEMPERATURE OF THE BODY.—The bodily temperature, as affected in disease, is instructive, and may be easily tested by a thermometer constructed for the purpose, and which may be inclosed in a case, to prevent injury to the glass. This instrument, known as the *clinical thermometer*, is self-registering. If it were not so, leaning over the patient's body would be necessary for the purpose of reading the scale while in contact with the skin, which is inconvenient, disagreeable, and, in infectious diseases, dangerous. At the top of the ordinary column of mercury, and separated from it, there is a little piece which has been purposely detached, to serve as an *index*. Before taking the temperature, this index should be *gently* shaken down to about 96°. This may be done by holding the thermometer in the right hand, and then tapping that hand against the other. The constriction at the lower part of the instrument is to prevent the index being accidentally shaken into the bulb. When the mercury rises it drives this index before it, and when the mercury falls the index remains, showing by its *upper* surface the highest temperature reached. The manner in which the clinical thermometer is graduated, and the method of reading it off, are simple. The scale is shown on p. 34. Each of the longer lines indicates a degree, although, as a matter of convenience, only every fifth degree is numbered. The spaces between the degrees are divided into fifths, by smaller lines. It is more easy to read the figures on a thermometer with a flat back.

The average temperature of the surface of the human body in a condition of health and repose is 98·4° Fahr. In the mouth it is 99·5°. The temperature of the blood

is 100° . A rising of the temperature of the surface of the body above 99.5° , or a falling below 97.3° , are sure signs of some kind of disease when such variations are persistent. The fall is significant of depressed vitality, either from rapidly exhausting diseases, or from long-continued maladies. The rise is indicative of fever, or of some

disease accompanied by fever. All this is shown by the accompanying woodcut of a clinical thermometer.



Previously to using it the thermometers should be slightly warmed, but not so much as to send the mercury above the natural temperature of 98.4° . The temperature must not be taken by letting the patient hold the instrument in the hand, as the heat of the palms varies considerably. The hands (of *Indians* especially) are often cold and moist, and would therefore show a lower degree of temperature than that of the body; while under some other conditions, as masked malarious fever (*vide* p. 266), and sometimes from dyspepsia, the palms burn, and would show a higher temperature. As the most convenient

place, the thermometer is generally introduced into the armpit. The armpit should be wiped dry, and then the bulb of the instrument should be placed in the centre of the armpit beneath the clothing, and the arm should be

held closely to the side, with the hand lying on the chest, pointing towards the opposite shoulder, so that the skin may perfectly surround the bulb of the instrument. It should be kept in this position for three or four minutes, and during the time it should not be exposed to the action of a punkah. It should then be removed, and the point to which the mercury has risen in the graduated tube should be immediately read off. In doing so the observer should not allow the bulb to come in contact with his own hand, which might alter the reading of so sensitive an instrument. For recording the readings it is best to be provided with a chart printed for the purpose. A thermometer should always be washed after being used, and in contagious diseases carbolic acid solution (Recipe 117) should be used for this purpose.

Watch-shaped clinical thermometers have been invented, but, although less liable to break, they are not quite so accurate as the tubular-shaped.

Each disease which runs a definite course, as scarlet fever, measles, small-pox, typhoid fever, rheumatic fever, &c., has a more or less characteristic range of temperature. The observations with a clinical thermometer ought to be continued regularly, and taken at the same hours every day throughout the sickness. The most useful observations are those taken about eight in the morning, and in the evening. The sensations of heat and cold, as felt by patients, do not always coincide with such observations. In fever, chilliness is often complained of when the body is really hotter than natural, and the patient may feel hot when really cold. Hysteria often simulates inflammatory disease; but the temperature of hysterical patients is not increased, whereas that of persons suffering from inflammatory disease is always raised.

The Temperature of Children is usually a very little higher than that of adults; and a word of caution is

necessary. In children the temperature sometimes increases rapidly, probably from stomach derangement, when there is nothing serious the matter. Care, therefore, should be taken not to form a hasty conclusion of some serious disease simply because the thermometer indicates much heat of surface, which often falls with equal rapidity. If, however, the deviation from the healthy standard continues more than twelve hours, there is almost certainty that an illness is commencing.

RELATION OF THE PULSE, RESPIRATION, AND TEMPERATURE.—An increase of temperature of one degree above the natural standard corresponds with an increase of the pulse of about ten beats per minute, and of two or three respirations per minute. Thus, if the natural pulse and temperature were respectively 75 beats in the minute and 98.4° , while the number of respirations was 18, an elevation of the temperature to 100 would probably bring up the pulse to 90 or 95, and the respirations to about 23.

THE TONGUE.—This organ presents peculiarities in many maladies, of which the following are the principal:—

1. *A pale, white, flabby, broad, tremulous tongue, indented by the teeth*, denotes a weak, debilitated condition of system, and a watery state of the blood, as occurs in *anæmia*.

2. *A florid redness of the tongue* denotes *plethora*, or too full a condition of the system. When there are symptoms of dyspepsia present, it denotes a similar condition of the coats of the stomach.

3. *A livid or purplish colour of the tongue* occurs in various diseases of the chest, when there is obstruction to the circulation of blood in the lungs.

4. *A furred tongue* may not indicate disease, some persons always having it even when in good health, particularly in the morning. Or a furred tongue may arise from local causes, as inflammation in the mouth, throat, or gums. When not referable to such causes, a furred

and dry tongue denotes some kind of febrile affection. Thus it is covered with a cream-like fur in severe inflammations, in acute rheumatism, and in fevers. In the advanced stages of these diseases a thick brown or black coating collects, and the tongue is dry, parched, and cracked. When bright red points show through the fur (the tongue looking like a ripe strawberry, or as if sprinkled with cayenne pepper), it indicates scarlet fever, which has been first detected by this symptom. When jaundice is present the tongue is often coloured yellow from bile. When during acute diseases, as fevers, the fur slowly clears away from the tip and edges, and thins on the upper part, it denotes recovery. When the fur separates in flakes, leaving a smooth, red, glossy, and moist surface, it indicates some internal mischief and lingering convalescence.

5. *A tongue with red edges furred in the middle and at the base indicates dyspepsia. If tremulous when protruded from the mouth, it signifies intemperance.*

6. *A tongue furred in the centre, with red tip and edges, is characteristic of hectic fever.*

7. *Loss of the power of motion of the tongue, or its being drawn aside when protruded, are bad symptoms in paralysis, fevers, or other acute disorders.*

In addition to the indications of the condition of patients to be obtained from the *Pulse, Breathing, Temperature, and Tongue*, various other symptoms occur, having more or less reference to the existence of many diseases of which they are the consequence or signs. These symptoms are:—1. *Loss of appetite* (*vide* p. 59). 2. *Cough* (p. 158). 3. *Delirium* (p. 159). 4. *Fever* (p. 238). 5. *Giddiness* (p. 277). 6. *Headache* (p. 291). 7. *Pain* (p. 342). 8. *Palpitation* (p. 297). 9. *Shivering* (p. 386). 10. *Sore-throat* (p. 442). 11. *Thirst* (p. 442). 12. *Urinary Conditions* (p. 453). 13. *Vomiting* (p. 459).

Although the foregoing symptoms are usually prominent as indications of the diseases to which they point, it should be understood that *disease differs in different people*, just as the action of medicines has been shown to vary (*vide* p. 7). Sex, habit, age, climate, temperament, race, and idiosyncrasy exert influences which tend to render similar diseases in different people varied in their characteristics; sometimes one class of symptoms being more prominent, sometimes another. In tropical climates the great characteristics are, the tendency to a remittent form of the accompanying fever, and to rapid failure of the vital powers. From the above it will be evident that the aim of the physician must be the treatment of each individual case in accordance with the peculiar symptoms presenting; and it should be equally evident that the popular idea of *this* medicine for *that* disease must be erroneous, and hence that *patent* medicines vaunted to cure all, or even many maladies in all persons, *must* be unequal to so desirable a result.

CLIMACTERIC PERIODS.—There is probably some truth in the popular belief that each seventh day is a critical period in fevers. Also, that the odd numbers, 3, 5, 7, 9, multiplied by 7 are climacteric years, especially 49 in women and 63 in men.

SIGNS OF DEATH.—As there are instances of persons supposed to be dead recovering, it is desirable to note the *signs of death*. These are:—
1. *Cessation of the circulation*: the pulse cannot be felt, and the beating of the heart cannot be felt or heard. 2. *Cessation of respiration*: the chest does not move, a feather held to the mouth is not stirred, and a looking-glass is not made dim by the breath. But none of these signs are infallible, as instances are known of persons being able to suspend circulation and respiration, or at least to carry on these processes so slightly that they could not be recognised. 3. *Coldness of the body, commencing at the extremities*: not infallible, as after death from cholera the temperature sometimes rises. 4. *Rigidity of the limbs coming on gradually*: not infallible, as after death from some maladies it is long in appearing, and in the cataleptic condition rigidity may be counterfeited. 5. *Death-like stillness*: not infallible, as after death from cholera startings of the limbs sometimes occur. 6. *Eyes dull, flaccid, and shrunken*: not

infallible, as after death from some poisons the eyes remain bright for a long time. 7. *Absence of a red colour in semi-transparent parts*, as, for instance, the sides of the fingers when viewed with a powerful light behind. 8. *Absence of muscular contraction* on an electric or galvanic current being applied. 9. *Absence of a blister* on touching the skin with very hot iron, but not sufficiently hot to destroy the skin. Sufficient heat being applied to the skin during life, or within a few minutes after death, produces a blister containing water with a line of redness round. Heat applied after death produces a blister containing air except in dropsical bodies. 10. *On opening a vein water oozes out instead of blood*. None of these latter tests are to be regarded as infallible, as mistakes may occur in their application and in the appreciation of results. 11. *Commencement of putrefactive changes*, usually first seen over the bowels: certain. It will thus be seen that none of the signs of death, excepting the last, are in themselves certain evidence of life having ceased. But taken altogether, the evidence is conclusive.

DISEASES

ABSCESS.—This term is applied to a painful and inflamed swelling, which, after a certain course—in most instances rapid, in others slow—terminates in a discharge of a yellowish creamy fluid called *pus*, or popularly ‘matter.’ Abscess may present in any part of the body: a gumboil, a whitlow, and the painful swelling sometimes formed in the female breast during suckling, are all instances of abscess. Abscess may also attack some internal organ, as the brain or liver. Abscess differs from boils in *not* containing dead flesh, or a central hard part, commonly called the ‘core.’ Abscess often arises from local injury; but it may originate from cold, or without any assignable cause, or be connected with want, scorbutic, scrofulous, syphilitic, or other morbid or debilitated conditions.

It is necessary to *distinguish those swellings which are much inflamed, very painful, and rapid in their course from those which grow slowly and gently, and with little, if any, redness of the skin*. The symptoms of the first variety, or of an *acute inflammatory abscess*, are these: A swelling,

becoming in the course of two or three days, or often in a few hours, very hot, painful, and tender, the skin assuming a stretched appearance, with a bright red hue, most intense at the centre. As the swelling increases the pain becomes more severe, and has a characteristic *throbbing* peculiarity, which is worse if the part affected is allowed to hang down. The skin and subjacent soft parts become 'puffy,' and retain for a short time the mark made by pressure with the finger. As the centre of the abscess becomes more painful and inflamed it softens and gradually 'ripens,' or turns into matter. The skin at this part becomes thinner, more prominent, and loses its bright red colour, 'pointing,' as it is termed, in the shape of a light yellow or bluish spot. The whole swelling is now soft, and by making gentle pressure, alternately with the fingers of each hand, the sensation may be generally felt of fluid moved from side to side. The abscess finally bursts, and discharges the contained matter through one or more small apertures formed in the thinnest and most distended portion of the skin. The discharge at first is profuse, and consists of a thick yellowish fluid; as the cavity of the abscess contracts and closes, it diminishes and becomes clear and thin. During the progress of healing the superficial layers of skin about the seat of the abscess peel off. The progress of an abscess towards ripening is usually accompanied by constitutional symptoms, proportional in severity to the size of the swelling and the amount of inflammation. These symptoms are, shivering, feverishness, headache, and often pains in the back and joints. *Shivering*, particularly, is regarded as indicating the commencement of the formation of matter. When abscesses form deeply below the surface of the skin, especially where the skin is hard, as on the heel; or when they form beneath tendons and ligaments, as in one form of whitlow, the suffering is more intense, the matter longer in coming to the surface,

the parts implicated more important, and professional assistance oftener required.

The symptoms of the second variety of abscess, called 'chronic' or 'cold' abscesses, are much less severe. Feverishness and headache are slight, and the sign of matter forming, viz. shivering, may not occur, or be so trivial as to escape notice. The swelling increases very slowly, and with little pain or tenderness. The skin remains for a long time free from puffiness or inflammation. At length there is a slight blush or redness, and the matter is discharged through a small opening, as in acute abscess. Although the commencement of this form of abscess is attended with less fever, the termination of the malady is not so characterised. Chronic abscesses are generally large, and when the discharge is profuse and long-continued, hectic fever (vide p. 269) is usually excited. Scrofulous individuals are most usually affected, and a chronic abscess may depend on disease of a joint, bone, or gland.

Treatment.—In abscess arising from injury all irritating causes, as thorns or splinters, should if possible be removed, and then, if the person is in good health, the parts will usually heal under simple water dressing (Recipe 85). In the early stage of a painful inflamed swelling, an attempt may be made to prevent the formation of matter by applying lint, or a piece of linen wet with cold water or with cold vinegar and water (one-third vinegar), or by using the cold lotion (Recipe 83), which is a preferable application; by keeping the part in perfect rest, and as much as possible in an elevated position; by an aperient (Recipe 2); and by prohibiting the consumption of meat, beer, or spirits. *But if the patient has had shivering, or complains of throbbing pain, measures calculated to further the ripening and pointing of the abscess should be adopted. Local application in the shape of hot*

poultices (Recipes 77, 78, 79), of the variety most easily procurable, should be used, and the poultice should be changed every four or five hours, or as soon as it feels cool; or, as is sometimes more convenient for small abscesses, warm-water dressing (Recipe 85), or spongopiline, wet with hot water, may be substituted. Or the water-dressing may be used during the day, and a poultice at night. At each change of applications the part should be well bathed with hot water. Nourishing and easily digestible foods, as soups, beef-tea, eggs, and light puddings, should be allowed, a liberal diet being more especially required by feeble or debilitated persons. In most cases a small quantity of wine or malt liquor may be given.

When abscess occurs without any irritating cause, it will probably depend on some morbid state of the constitution, and *first* the possibility of a scorbutic taint should be recollected. If the gums, being spongy or inclined to bleed, show evidence of scurvy; or if the person has been in a locality where fresh vegetables could not be procured, such vegetables or other anti-scorbutic remedies (*vide Scurvy*, p. 382) should be taken. If symptoms of *anemia* (*vide* p. 46) are present, sulphate of iron (*vide* p. 24) may be obtained. If there are indications of a scrofulous condition, or of hectic fever, which is more likely to be the case during the progress of chronic or 'cold' abscess, the remedies mentioned under the head *Scrofula* (p. 379) should be obtained, viz. cod-liver oil, and iodine with iron (Recipe 74); or the treatment required for *hectic fever* (p. 269) should be employed.

If the constitution of the patient is weakened without evident cause, tonics will also be required, and quinine (Recipes 66, 67) may be used. A close room is to be avoided, as fresh air will assist in favouring the rapid formation and discharge of matter, and the contraction and healing of the abscess.

If necessary to use iron (as mentioned above), in consequence of symptoms of anæmia, instead of sulphate of iron, it will be preferable to obtain Recipe 70 for children and Recipe 71 for adults. Or the articles mentioned in the note to Recipe 71 may be substituted, in doses according to the table of proportions at p. 6.

After a variable time, generally two or three days in acute abscess, but a much longer period in chronic or cold abscess, matter having formed, the abscess becomes prominent or pointed; then the skin, at the thinnest or most prominent part, should be punctured with a clean, sharp lancet, when the matter will usually flow out, often with a spurt. The part should never be roughly squeezed in order to get the matter out quickly. Having allowed as much matter to flow as will easily escape, put, with the blunt end of a probe, a very thin strip of oiled lint or linen into the aperture, to prevent closure, and apply a poultice. The poultice and lint should be removed after two or three hours. Then with a soft sponge and warm water as much more matter as can be expelled without pain should be pressed away. The poulticing (but not the lint) and gentle pressure should be repeated at longer intervals, until all discharge ceases. If at any time there is a tendency to closure of the opening, the blunt end of a probe should be gently passed from one end of the opening to the other (*vide Sinus*, p. 44). So long as discharge continues the part should be kept in that position which will best favour the outward flow of the matter. When discharge ceases, if the edges of the wound appear to gape and require support, plaster should be applied. Otherwise, water-dressing (Recipe 85).

If obtainable, carbolic oil—or, oil not being at hand, carbolic acid lotion (*vide* Appendix, No. 119)—should be used instead of plain water, as mentioned above, and at p. 42.

The preceding is the simple way of treating an abscess. In hospitals antiseptic dressings would probably be used. And for large abscesses surgeons would insert a drainage tube, which if used should be placed in the most dependent position.

When opening an abscess no plunge should be made, which causes unnecessary alarm. Neither should the lancet be used slowly, which causes prolonged pain. The puncture should be made with confidence, decision, and a moderate degree of rapidity; and if an aperture is required larger than the shoulder of the lancet used (*vide* p. 491), it should be made the necessary length by cutting *outwards*, when withdrawing the instrument.

When abscess occurs in the neck, it is important to open it early, and the puncture should be made *longitudinally* (or in a direction with the lines or folds of the skin), and not horizontally, in order to avoid a large scar. In the *female breast*, it prevents much suffering to make a puncture as soon as the presence of matter is ascertained; and to avoid a scar, the puncture should be made from the nipple towards the circumference, *not* across the breast. A similar caution applies to abscess, or *bubo*, in the groin, where the puncture should be made in the direction of the natural skin-folds. When abscesses are near the *anus*, the use of the lancet should not be deferred for a single hour after discovery, or the danger of a fistula resulting will be increased (*vide* *Fistula-in-ano*, p. 271). An abscess of the *perinæum* (*vide* p. 421) and a *whitlow* (*vide* p. 463) should also be opened early.

Abscesses are liable to terminate in sinus or fistula: which means an unsound condition of the parts beneath the skin. This may result from the abscess not being opened sufficiently early, or from the opening being too small for the exit of the matter, which becomes pent up, and burrows under the skin. Or it may arise from want of care in dressing the part, or from an improper position assumed by the patient. *Sinus* is to be prevented by making the opening sufficiently early; by making the opening large enough; by keeping the opening in such a dependent position that the matter may easily flow out; by care in dressing the part, when it is often necessary to place and secure a small pad of lint over any position where there is

any tendency of the matter to gravitate or 'bag'; and by not allowing the opening to close up too soon, which is to be effected by the insertion of a thin strip of lint into the wound at first (*vide* p. 43), and afterwards by the daily insertion of the blunt end of a probe (*vide* p. 43) to the depth of less than a quarter of an inch between the lips of the wound, and carrying it through the whole length of the orifice, so as to separate the parts.

ACIDITY.—Acidity of the stomach is a frequent symptom of indigestion, and is often an accompaniment of chronic rheumatism and of gout. It usually arises from articles of food taken—especially those containing sugar—being converted, from error of digestion, into acids of various kinds. When the formation of acid in the stomach is only slight, or temporarily in excess, the symptoms may be limited to slight heartburn or flatulence, or to a little acid rising and sour eructations. There may also be fulness, oppression, uneasiness, or even aching pain *felt in the chest*. In larger quantity acidity causes irregularity or capriciousness of appetite, headache, aching of the limbs, spots before the eyes, sleeplessness, depression of spirits, nausea, pain at the pit of the stomach or behind the ribs of the left side, and skin affections, such as nettlerash and erythema (pp. 386, 387). When the acidity is still more confirmed or long-continued, the sour eructations set the teeth on edge, the nerves of the stomach become more sensitive, and there will be pain at the pit of the stomach, of a burning, gnawing character, temporarily relieved by taking food.

Treatment consists in avoiding those articles of diet which produce acidity, as unripe fruit, cabbage, acid wines, sugar, butter, and food containing much starch, as rice, potatoes, and arrowroot; and in taking medicines which will correct acidity. Among the best of these is citrate of magnesia, which may be taken in tea-spoonful doses

dissolved in two or three ounces of water, to which a grain or two of quinine and 20 minims of tincture of ginger (*vide* p. 14) may be added; or 40 minims of sal volatile, and a grain or two of quinine in an ounce of water. Effervescing draughts (Recipe 36), aerated water, or draughts of simple cold water, are often temporarily beneficial. In some instances much benefit is experienced from sipping a pint of hot water twice or three times a day between meals, or night and morning. If the bowels are costive, sulphate of soda may be taken as a laxative (Recipe 2).

Acidity of the stomach in children is always combined with *flatulence*, for the treatment of which *vide* p. 273.

[Other antacid medicines which may be procured if the above do not relieve are, bicarbonate of soda, bicarbonate of potash, and bicarbonate of magnesia, each of which may be taken in from 20- to 30-grain doses. But a more convenient method of taking these remedies is by using 'soluble compressed tabloids,' as prepared by Messrs. Burroughs, Wellcome & Co., London. These are made of either bicarbonate of soda or of bicarbonate of potash, or of bicarbonate of soda with carbonate of ammonia and oil of peppermint. The latter are called 'soda-mint' or neutralising tablets, and are especially useful in acidity. When acidity occurs without disordered bowels, 5 drops of tincture of nux vomica, three times a day, before food, often gives relief. There is also a form of acidity characterised by eructations like rotten egg, which is only to be checked by acids, as Recipes 34 and 43, which should be taken after meals; the first being adopted if there is any suspicion of liver-disorder. But in the great majority of cases, acidity of the stomach is a symptom of dyspepsia, and all medicines are only palliative. The great means of cure are careful dieting and moderate exercise. Saccharin tabloids may be tried instead of sugar (*vide* p. 206).]

ANÆMIA.—Anæmia really signifies lack of blood, but poorness of blood is a principal characteristic. Healthy blood contains an immense number of red globules, which are seen under the microscope, and which give the blood its red colour. In anæmia these red globules are lessened in number, and are deficient in a constituent known as

hæmoglobin, which contains iron, and which has the special power of carrying the oxygen taken in by breathing from the lungs to all parts of the body. There is also an excess of water in the blood, and some other of the constituents of the blood are changed in character.

The causes of anæmia are numerous, the principal being as below. Insufficient diet not amounting to actual starvation. Want of sufficient light; the bleaching effect of want of solar light on vegetables is well known, and a similar sinister influence is exerted on animal life. Habitually living in darkened rooms, and want of sufficient fresh air and exercise, lead to loss of appetite and nutrition. Prolonged fatigue, which causes a greater waste of the body than the digestive organs can meet. Habitual constipation, during which the absorption of the products of retained *fecal* matter takes place, which act as poisons. Excessive mental work, which involves loss of sleep and digestive derangements. Worry, anxiety, and depressing mental emotions have long been recognised as causing the 'cheeks to grow pale,' and 'gnawing at our life and health.' Living in damp and so-called malarious localities. In short, bad hygienic conditions of all kinds predispose to anæmia. Anæmia may also arise from various diseased conditions. An unsuspected scorbutic or venereal taint, or a tape-worm, may be the concealed cause. It results in women from bearing children too quickly, and from prolonged suckling. Anæmia is also a consequence of most chronic exhausting maladies, such as Bright's disease, bleeding piles, spleen disease, repeated ague, &c.

It is not, however, the anæmia caused by exhausting diseases which is now considered, but the anæmia which arises as a distinct malady, especially in the tropics. For, in addition to the manifold causes of anæmia, which may excite the malady in any climate, *there is in hot climates an*

additional potent factor in the heat. Even in extraordinarily hot summers in temperate climates, a greater tendency to languor and debility is generally observed. How heat acts injuriously in the production of blood-deterioration is referred to in Chapter VI. under the heading 'Heat.' One, or several, of the causes of anæmia mentioned above may be in operation in addition to the heat of the climate, thus rendering anæmia, more or less marked, a very prevalent condition among both Europeans and natives in India; while anæmia itself renders the same sufferer more liable to most tropical diseases.

Symptoms.—The skin becomes pale, and may in dark complexions present a sallow appearance. In the native and half-caste the skin loses its brilliancy and softness, becoming of a lighter tinge and looking more semi-transparent, while the ordinarily lighter-coloured palms of the hand become much whiter. The whites of the eyes look pearl-coloured, the eyes are encircled by a more or less dark ring, and the interior of the eyelids, of the nose, and of the mouth, the tongue, and the lips, instead of being rosy red, are a pale pink colour. The tongue is also tremulous. The cheeks lose their colour, being bleached 'from the aspect of the rose, to the whiteness of the lily.' The sallowness of countenance in dark people is readily distinguished from the sallowness arising from affections of the liver, as it is never so yellow, and the whites of the eyes do not become yellow as from liver disease. In addition to the bloodless expression of countenance, the face often appears bloated or 'puffy,' although the body loses weight. The patient is habitually chilly, languid, and indisposed to exertion, and the extremities, especially the feet, are usually cold, although the palms of the hands may often burn. The system being so sensitive to cold, sore-throats, catarrhs, bronchial affections, and diarrhœa result from slight atmospheric changes. The appetite

becomes variable, and sometimes depraved. The urine is generally pale and the bowels usually costive. There is also headache, mostly felt about the temples, or at the top of the head, and often described as *throbbing*, or as if something were pressing down and out. It is generally relieved by taking food and by lying down, and aggravated by the erect posture or by exertion. Aching of the limbs, coming on suddenly and lasting a variable time, is a frequent symptom. The monthly courses of females become irregular, scanty, thin, watery, and painful; varied sometimes by a profuse flow (*vide* pp. 468, 474). Whites in females is an almost certain complication (*vide* p. 462). As the malady progresses there is shortness of breath, especially on exertion, such as going up hill, or up stairs; palpitation of the heart, pain in the left side, a tendency to fainting, ringing in the ears, spots or sparks before the eyes, the sleep is very heavy, and there may be bleeding from the nose. The previous languor and disinclination for exertion now gives place to a feeling of thorough weariness. The appetite becomes more variable and fastidious, while digestion is more and more impaired, and acidity (p. 45) and flatulent dyspepsia (p. 204) become troublesome. The brain, now being also affected by the deteriorated blood, presents various evidences of weakness. There is capriciousness and irritability of temper, impressions too feeble to be perceived by healthy persons harassing the anæmic. There is also loss of memory, and of the power of fixing the attention. The man becomes hypochondriacal, and the woman hysterical. When the malady has lasted some time, the spleen may become enlarged, and swelling of the feet and ankles may be expected.

It is not to be understood that all the symptoms enumerated appear immediately, or in regular sequence, for the process of blood degeneration may be one of months or

years, and one organ or the other may be first and most affected. Anæmia may present in all degrees of severity, from slight pallor and debility to the condition known as *pernicious anæmia*, when all the symptoms are aggravated, and the person dies, probably from sheer debility, or from apoplexy or paralysis (*vide* pp. 53, 342) resulting from the anæmic condition. A minor degree of the symptoms described is not incompatible with *apparently* fair health and with the pursuit of ordinary avocations. But warnings of anæmia should not be neglected, especially by the European in tropical climates, for the anæmic condition induces dyspepsia, neuralgia, nostalgia (or home craving), boils, abscesses, chronic diarrhœa, fatty degeneration of the heart; it predisposes to apoplectiform attacks, and it renders the person much more liable to the fevers of the tropics.

There are several forms or phases of anæmia, the principal of which are as below.

1. *The form of anæmia known as green sickness or chlorosis.*—When anæmia is connected with the first appearance, or with irregularities of the monthly courses of females, it is commonly called ‘green sickness’ or *chlorosis*, and it presents some features different to those of ordinary anæmia. There is a greenish-yellow colour of skin different to the pallor of ordinary anæmia; there is a more marked dark halo round the eyes; there is a more frequent depraved appetite, causing such things as slate pencil and dry rice to be greedily eaten; there is a more frequent complaint of throbbing pain at the top of the head and in the left side; the urine is paler and more copious, and hysterical symptoms are more frequent. Constipation is also a more marked feature, and in some instances the anæmia of girls is altogether due to the absorption of the products of the decomposition of retained *fecal* matter. This will especially be likely if with

constipation there is also pain or uneasiness in either side of the bowels, particularly the left side. Further green sickness is usually attended with marked pain in the back and loins at the monthly periods, and probably swelling of the feet.

2. *Leucocythæmia*, or *white cell blood*, is an advanced stage of anæmia, in which there is a large increase of white cells in the blood, enlargement of the glands in various parts of the body, and usually also of the spleen.

3. *Malarious cachexia* is merely another name for anæmia.

4. *Masked malarious fever* (*vide* p. 266) is anæmia accompanied by slight fever.

5. *Melasma*, or *Addison's disease*, the symptoms of which are progressive feebleness without any apparent cause, and often a peculiar change in the appearance of the skin which becomes bronzed. This condition is connected with changes in the structure of attachments to the kidneys, known as the supra-renal capsules.

Treatment.—The treatment consists in moderate exercise every day, and of free ventilation of the living, sleeping, or working apartments. The diet should be nourishing, and a moderate amount of animal food should be taken; but anything causing indigestion should be avoided. Stimulants should be resorted to sparingly, a small allowance of malt liquor being the most advisable. Cold or tepid bathing is often of great service, and change of air and scene is always useful. Tonic medicines, especially iron, are of great value. The red globules of the blood, as previously explained, contain iron, and iron given as a medicine tends to increase their quantity. It must, however, be understood that anæmia is dependent as much on scanty absorption of iron into the system as on a deficiency of the supply of iron; hence, unless combined with well-regulated sanitary conditions, as mentioned above,

iron will do little good. These being attended to, sulphate of iron may be used (*vide* p. 24). Sulphate of iron will be found especially useful when the tongue is flabby, pale, broad, and indented by the teeth. Should the bowels be confined, citrate of magnesia may be used, or, if a stronger aperient is wanted, Recipe 2. If disorders of the monthly flow exist, the treatment recommended for *amenorrhœa* or *dysmenorrhœa* should be pursued (*vide* pp. 468, 472). What is said at p. 50 regarding the anæmia of girls being caused by constipation should be recollected, for which Recipes 1, 2 may be used. In such cases tight-lacing must be avoided and regular habits insisted upon.

When anæmia is long confirmed change of climate should be taken, the European to Europe, the Indian to the hills. For the European, short sea-voyages or the hill climates are not sufficient. But the change to Europe should not be made in the winter, and the greatest care should be taken to avoid chill.

[Better medicines for anæmia are, the iron mixtures (Recipes 71, 73); No. 73 when delayed menstruation exists; Recipe 71 when there is not this complication. Or for simple uncomplicated anæmia, the medicines mentioned in the note to Recipe 71 may be substituted for the iron mixture by those disliking the taste of the latter. When the colour begins to return, Recipe 75. If constipation exists, it is also desirable to use aloetic laxatives, as Recipe 13; if the motions are light in colour, or it is supposed the liver is not acting freely, acid baths may also be taken (*vide* Recipe 113). If there is no suspicion of inactive liver, Recipe 15, which contains iron. If the appetite is bad, pepsine may be taken with the food, and Fairchild's 'pepsine tabloids' are to be recommended. The Burroughs & Wellcome pills, containing the one-fiftieth part of a grain of phosphorus, taken night and morning, are also advisable under almost any circumstances. For the anæmia of young and rapidly growing children, phosphate of lime in 1- to 2-grain doses three times daily. The Burroughs 'beef and iron wine,' which is a highly concentrated stimulating and strengthening food, with an agreeable flavour liked by children, is very valuable in anæmia. When the disease is long-continued, a visit to the mineral springs, or at least drinking the mineral waters containing iron, is often beneficial.]

APOPLEXY.—The disease attacks in three ways.

1st, suddenly, the patient falling down without warning, as if from a blow. In this *first* form of the disease, the patient falls to the ground, deprived of sense and motion, and lies like a person in a deep sleep; the face flushed, the breathing laboured, and the pulse full and slow. The pupils of the eyes may be dilated, or one may be dilated and the other contracted. The mouth may be drawn to one side, and there may be convulsions, also often confined to one side of the body. When convulsions occur at the onset there is often some kidney affection.

2ndly, and more usually, after *premonitory* symptoms or 'warnings,' which may be of days', weeks', or even months' duration. Such *premonitory* symptoms may be giddiness, especially on stooping, nausea, sickness, and fainty feelings, headache, a sense of pressure, constriction or heat in the head, constipation, scanty urine, confusion of ideas, faltering speech, flushing of the face, bleeding from the nose, flashes of light in the eyes, double vision, noises in the ears, numbness of the extremities, loss of memory, or the anæmic condition generally (*vide* p. 46). In this *second* form of the malady, the *first symptoms of the actual fit* are more like those of fainting, viz. feeble pulse, sighing respiration, pallid face, cold surface, and attempts to vomit.

3rdly, with sudden paralysis of one side of the body, or of one leg only. In this *third* form, the person cannot move the affected part, or the limb is dragged with difficulty. In more serious cases the face is also drawn to one side; the tongue cannot be put out straight; the speech is impaired, so that the person endeavours to express himself by signs; and the intellect may be confused.

In whatever way it may commence, the fit, especially after beginning in either of the first two manners, is usually ultimately characterised by insensibility, accom-

panied by slow, noisy, *puffing* breathing, and frothy saliva about the mouth. The teeth are clenched, and the person is unable to swallow; often, fluids put into the mouth run out at the corners; or swallowing is performed with difficulty; the countenance becomes flushed or livid; the eyes are dull and glassy, and the pupils of the eyes are contracted, or one remains dilated and the other contracted; the mouth is drawn to one side; the limbs are motionless and rigid, but sometimes convulsed, or the latter conditions present only on one side of the body. The extremities are cold, and the body is bathed in cold sweat; the bowels are either obstinately confined, or motions may be passed involuntarily. The urine may also be passed involuntarily, or retained till the bladder is full, when it dribbles away. The pulse, at first slow, becomes quicker, fuller, and stronger as the system recovers from the first shock, although it often remains less frequent than natural, and may be irregular. Falling to 60 beats per minute, or rising to 110, are both unfavourable signs. Slight alteration of the natural temperature of the body is a favourable indication, but a persistent depression or rise is unfavourable.

The duration of an apoplectic fit varies from two to three hours to as many days. The longer the apoplectic condition continues without improvement, the less is the prospect of recovery. It may terminate by gradually passing off, leaving the person *apparently* little the worse, or it may terminate in incomplete recovery, the mind remaining impaired, or some part of the body being paralysed; or, the person not regaining sensibility, the increasing stupor may end in death.

The *predisposing* causes of apoplexy are—age, from the fiftieth year upwards; sex, men being more liable to it than women; make of body, combining a short thick neck, large chest, florid complexion and stoutness; hereditary

tendency, the malady often running in families; indulgence in eating and drinking; a gouty condition of system; prolonged constipation; the anæmic condition; and disease of the liver, heart, or kidneys. The *immediate* causes are whatever unduly impedes or accelerates the circulation of the blood within the brain, or exerts a certain degree of pressure on it—such as violent exercise; straining, as in lifting heavy weights, or as at stool; sudden mental emotions, and violent passions; intense heat; overloading the stomach; tight stocks round the neck; the sudden cessation of any accustomed discharge, as from piles.

[*The immediate attack* of apoplexy depends generally on the sudden escape of blood beneath the skull on the surface of the brain, or on or between its investing membranes. This occurs from the rupture of a blood-vessel (probably diseased from fatty degeneration, *vide* p. 235). Or it may depend on the formation of a blood-clot in the blood-vessels of some part of the body, which is conveyed by the circulation into the brain, there blocking, and eventually causing rupture of a blood-vessel. *Secondly*, the apoplectic seizure may be caused by filtration of watery fluid into the cavities of the brain, without actual rupture of a vessel and escape of blood. This occurs from a congested or too full condition of the vessels, which results in filtration of the water of the blood from them. Or it may depend on an anæmic condition or thinness of blood (*vide* p. 46), which results in similar filtration.]

Attacks resembling apoplexy and resulting from a condition known as URÆMIA are liable to occur when, from any cause, there is interference with the secretion or discharge of urine. Uræmia signifies the retention in the blood of material which ought to be expelled with *the urine*. This condition often occurs, and terminates in an apoplectiform attack, in the latter stages of albuminuria or diabetes. The attack is usually preceded by warnings as mentioned above, and is often characterised by convulsions.

Apoplexy requires to be distinguished *from fainting*,

from the effects of spirituous liquors, and from the results of narcotic poisons, as opium, and from epilepsy.

Fainting occurs principally to young, nervous, or hysterical females; apoplexy to elderly people. As a rule persons fainting recover in a few minutes, the pulse becoming more distinct, and intelligence being gradually restored. The apoplectic attack continues as described at p. 53.

Apoplexy is best distinguished from the effects of spirituous liquors: 1st, by the history of the case; 2ndly, by the smell of liquor in the person's breath—although it must be recollected that this is not a certain sign that the patient has been drinking, for someone may, in mistaken kindness, have given the person struck by apoplexy some kind of liquor; 3rdly, in the 'drunken fit' the size of the pupils is equal, while in apoplexy one is often contracted and the other dilated; 4thly, the person 'dead drunk,' as it is termed, may generally be roused, when he babbles incoherently—from apoplexy the person cannot be roused; 5thly, if the patient be carefully watched, any movements which occur will be usually found to be restricted to one side of the body in apoplexy, while movements occur on both sides in drunkenness.

Apoplexy is to be distinguished from poisoning by opium: 1st, by the history of the case; as apoplexy may have been preceded by premonitory symptoms, and opium-poisoning is not so preceded. Apoplexy may come on during or immediately after a meal; while if opium is given during a meal symptoms do not present for from ten to thirty minutes; 2ndly, by the absence or presence of the smell of opium in the breath; 3rdly, by the equal contraction of both pupils caused by opium; 4thly, in apoplexy the patient cannot be roused, while in opium-poisoning he may generally be roused for a moment if shaken or spoken roughly to, or even by tapping the

forehead, although he does not then babble as in drunkenness, but lapses at once into sleep again; 5thly, in apoplexy what are called 'reflex actions' may usually be induced,—that is, if the patient's foot or leg is pinched or tickled, there will be an effort made to draw the foot away—in opium-poisoning such movements cannot ordinarily be induced, the patient apparently not feeling pinching or tickling; 6thly, apoplexy chiefly attacks persons in advanced life, while opium-poisoning is most usual in the young, especially young females; 7thly, apoplexy is most usual in either fat or thin people, opium-poisoning occurs in all varieties; 8thly, apoplectic symptoms often occur abruptly, opium-poisoning symptoms always come on gradually.

Apoplexy is known from epilepsy by the presence of *puffing* breathing, which is absent in the latter malady. In epilepsy also there is struggling of the limbs; the eyes are turned up under the lids, so that the whites only are visible; and the person generally falls down with a loud cry, none of which are symptoms of apoplexy.

Treatment.—The first thing in all cases is to loosen the patient's neckerchief and shirt-collar, to *slightly* raise his head, and give free access of air. The forehead should be bathed with cold water, or, if available, a bladder of pounded ice should be applied; the feet should be put in hot water; and mustard poultices should be applied to the calves. But while this is being done the patient should be kept in the horizontal posture, which may be effected by drawing him down towards the foot of the bed until, the knees being bent, the legs hang over. The feet should be kept in hot water about ten minutes, after which bottles filled with hot water should be applied to them; the mustard poultices being allowed to remain on the calves for an hour. If mustard poultices are not available, the limbs should be well rubbed with the hand;

and in any case they should afterwards be warmed by friction. The head and shoulders should be propped towards the right side (to prevent the tongue falling back). Perfect quiet should be maintained, and the blinds should be drawn down so as not to let too much light into the room, and only one or two people should be allowed by the bedside. Bleeding should not be undertaken, except under medical advice. As soon as the patient can swallow, 1 ounce of sulphate of soda dissolved in 4 ounces of water may be given as a purgative. But until the patient is able to swallow, no attempt should be made to induce him to take either medicines or anything else. Stimulants should not be used under any circumstances. In all cases an assafotida injection (Recipe 105) should be given as soon as possible. If the person lies insensible more than six or seven hours, without making water, the catheter should be used (*vide* p. 493). If the water is retained till the bladder is full, and then *dribbles* away, it is a sign that the urine should have been drawn off before.

If the fit happens *immediately* after a full meal, the patient may make attempts to vomit; and if this is the case the action of vomiting may be assisted by tickling the throat with a feather. But if there is no spontaneous attempt to vomit, emetics and all excitants to vomiting must be avoided, as the action of vomiting may increase the determination of blood to the head and do mischief.

When there is reason to suppose, from the previous ailments of the person, that the attack depends on *uræmia* (*vide* p. 55), every endeavour should be made to renew the flow of urine and to excite the action of the skin. The loins should be fomented. If the patient can swallow, Recipe 50 should be given; and the bowels should be opened, as detailed above.

After a variable time the patient generally recovers

from a first or even a second apoplectic fit, but it is then often found that he has lost the use of an arm or a leg, or of one side of the body. The power of speech may also be lost and the muscles of the face may be affected.

[It is always desirable to act on the bowels as soon as possible; but as the patient cannot in the majority of cases swallow, it will be desirable to obtain from the chemist's a little croton oil, of which *two or three drops* may be placed on the back of the patient's tongue with a feather. If the croton oil does not operate freely (Recipe 11) followed in three hours by Recipe 5, should be given as soon as the patient can swallow, and the latter should be repeated every six hours until the bowels have been freely moved. An enema (Recipe 106) should also be injected.]

When convalescence commences, the bowels should be regulated, and a generous or a low diet must be given, according to the condition of the patient. As a general rule, the latter will be required; and in some instances, when there is a gouty tendency, nothing but vegetables to eat, and milk and water to drink, will be advisable. All strong medicines, excitement, and mental occupation should be avoided.

Prevention of Apoplexy.—Temperate and active habits, with moderation in food and drink, may prevent apoplexy, or at least postpone the seizure; and the 'warnings' noted (*vide* p. 53) as frequently preceding a fit should never be neglected. While the bowels are kept moderately open, bromide of potassium (Recipe 19) may usually be given with advantage. Although any one of the warning symptoms detailed, occurring singly, would probably be of minor significance, a combination of them in a person who is a likely subject for apoplexy, especially if there is any kidney or gouty affection, may be regarded as a sure precursor of an attack, unless abstinence, and preventive remedies in the shape of laxative medicines are adopted.

APPETITE, LOSS OF.—Loss of appetite occurs in indigestion, fever, debility, and inflammations, and must be regarded as a symptom of disease rather than a disease

itself (*vide* p. 37). The appetite is almost always lost in serious illness, and when good it is usually a sign that there is not much the matter. Exceptions are, during some forms of dyspepsia and in 'diabetes.'

ASTHMA.—Asthma signifies attacks of difficulty of breathing, of a spasmodic character, occurring in paroxysms. It is often spoken of as *humid* and *dry*, according as it is or is not attended with much expectoration. The wind-pipe divides into two tubes at the upper part of the chest, one passing to each lung. These two tubes divide and subdivide into smaller tubes, which convey the air to and from the cells of the lungs. All the tubes are surrounded by circular muscular fibres, and the cause of asthmatic difficulty of breathing is the contraction of these muscular fibres, which thus reduce the calibre of the tubes. This spasmodic contraction may be excited by *direct* and *indirect* causes. The *direct* are dust, vegetable irritants such as pollen, chemical vapours, animal emanations, climatic influences, especially rapid changes of temperature. The *indirect* are emotions, such as anger or fright, costive bowels, heavy suppers, flatulence, and other forms of dyspepsia, a gouty condition of system (*vide* p. 282), fatty heart, emphysema of the lungs (*vide* p. 330), and hereditary predisposition. Some persons are peculiarly liable to asthma, and their appearance is characterised by thinness, round shoulders, anxious expression of countenance, hollow cheeks, rather hoarse voice, and habitual slight cough.

A fit of asthma generally comes on in the night, the reason being, that the slower circulation, or congestion, which takes place during sleep, or when the body is recumbent, sets up an irritation leading to spasm. But the seizure is often preceded by languor, flatulency, headache, heaviness over the eyes, sickness, pale urine, disturbed rest, and a sense of oppression about the heart.

Yet it often comes on suddenly, without such warnings, the patient waking from his first and deepest sleep labouring for breath. When the fit is fully formed there is intense difficulty of respiration, the patient sitting up in bed, or standing holding on to a table or chair, breathing hard with a wheezing noise. The face becomes livid or bluish, the eyes look prominent, the body is covered with cold perspiration, suffocation appears impending, the sufferer often struggles to the window, which he desires may be open, and there may be cramp in the legs. A paroxysm may last minutes or hours, and when subsiding there is often expectoration of little pellets of thick phlegm or mucus, and perhaps a copious discharge of pale urine. The length of time between successive fits of asthma varies much, during which the person, if he takes care, usually enjoys fairly good health; unless the condition known as emphysema (*vide* p. 330) also exists, when the health is not so good.

Treatment.—During a paroxysm the patient should be kept sitting up. If the fit is severe he should be placed in an arm-chair in front of a table, with a pillow on which he may rest his elbows. The spine may be rubbed with equal parts of salad oil and brandy, or, if available, with soap and opium liniment. Pressure with the thumbs on the large (axillary) arteries of the arms, as they issue from the chest (*vide* p. 501), has been found to lessen the difficulty of breathing. To plethoric persons ipecacuanha wine may be given, in 20-drop doses, in an ounce of water. For weaker persons camphorated tincture of opium, combined with a stimulant, as ammonia (Recipe 56), is more advisable. If the attack has followed an injudicious meal, as a late supper or dinner, a mustard emetic (Recipe 54) should be administered. If the attack has been preceded by constipation, sulphate of soda (Recipe 2) should be taken as a purgative. Sometimes a glass of

hot brandy and water will relieve a fit of asthma; at other times a cup of hot strong coffee without sugar or milk. Other easily procurable and popular remedies are: 10 grains of powdered alum placed on the tongue; a full dose, as 20 grains, of chloral; spirits of camphor (*vide* p. 24) in 10-drop doses every ten minutes; the inhalation of the fumes from burning straw or blotting-paper previously soaked in strong solution of saltpetre, and dried ready for burning. All these means may be successively tried, for what does not benefit one may do good to another; and what does not ease one attack may afford relief at another time.

Smoking *dhatura stramonium* leaves (*vide* p. 27) sometimes relieves asthma, especially if the smoking is commenced *before* the fit is fully formed. From ten to thirty grains of the dried leaves may be smoked in a common pipe, which will often, if taken in time, prevent an expected paroxysm. It is desirable to commence with the smaller quantity, and gradually to increase it as required. Another way of using the stramonium is by puffing the fumes into an inverted tumbler, which, when full, should be placed over the patient's mouth, who should inhale the contents by a deep breath. This method often excites cough, but is occasionally very beneficial.

[If the above measures do not succeed, Recipes 58 and 60 may be obtained *for use during the fit*; or for plethoric persons, Recipe 59. The following prescription sometimes acts like a charm. Compound spirit of ether (Hoffman's anodyne), half a drachm; acetate of morphia, half a grain; camphor water, one ounce. Bromidia may also be tried. This preparation contains in each tea-spoonful 15 grains of chloral, 15 grains of bromide of potassium, $\frac{1}{2}$ grain of cannabis indica, and $\frac{1}{2}$ grain of hyoscyam. Dose, a tea-spoonful. Burroughs & Wellcome's 'valoid fluid extract of stramonium seeds' is a valuable remedy in spasmodic asthma. Five minims of tincture of lobelia in an ounce of water every half-hour, continuing the medicine until either relief is obtained or the patient feels a little sick or faint, when it should be *immediately* stopped. If lobelia relieves, as it often does, the amount of the divided doses may

be taken at once up to forty minims on the next occasion. Many patients are benefited by chloroform, *half a drachm* of which may be placed on a handkerchief, which should be held two or three inches from the nose and mouth. This may be repeated three or four times, at intervals of a quarter of an hour. *Cigars de Joy* or anti-asthmatic cigarettes (both of which are composed principally of stramonium leaves), or ozone cigarettes may also be procured and tried. But as with the smoking of stramonium above recommended, it is desirable that the cigars should be smoked *before* the paroxysm of asthma has been fully formed, or the effect is not so powerful. Ozone and nitre paper, and chlorate of potash and nitre paper, are also prepared by the chemists, the fumes from burning which may be inhaled. The inhalation of the spray, produced by a common hand-spray instrument, of equal parts of ipecacuanha wine and water, is also often very beneficial. To relieve the distressing flatulence often preceding or accompanying a fit of asthma, 10 grains of alum, 5 of ginger, and 4 of powdered rhubarb may be taken with advantage.]

Treatment is equally important during the intervals between the fits; and it is found by experience that more is to be done for asthmatic patients by careful dietetic management than in any other direction. However well the person may feel during the intervals between the fits, he should never exceed in diet. Breakfast, which should be the chief meal, should consist of an egg, or chop, or cold chicken; tea is better than coffee, and milk and water better than either. Mutton ought to be the staple dinner diet, with green vegetables and potatoes in moderation, provided they do not cause flatulence. No pastry should be used, and there should be no dessert, but stewed fruits or light pudding may generally be taken with impunity. Sausages, kidneys, salt boiled beef, pickles, or toasted cheese should never be eaten. It has been stated, 'There is as much asthma in a mouthful of Stilton as in a whole dinner.' Water, or very weak brandy-and-water, is the best drink. Late dinners are to be avoided, and the asthmatic should never eat as much as he can. A person subject to asthma cannot eat and drink with the impunity of other people, and it is only by the exercise of self-denial

in this respect that he will be able to live in comparative ease and comfort. Similarly, he should avoid excitement, fits often arising from mental emotions.

[*After the fit*, in conjunction with a strict system of diet, as mentioned above, Recipes 14 and 6 should be used on alternate nights and mornings, for three or four days, or until the bowels are freely moved, to be followed by Recipe 41. Iodide and bromide of potassium (Recipes 21 and 19) and arsenic (Recipe 75) are also among the most approved preventives. Wearing a Pulvermacher's galvanic chain is often beneficial.]

Asthma is sometimes more relieved by change of climate than by medical treatment, although it cannot be said with certainty what climate will suit each individual case. Sometimes a dry, at others a moist climate, affords most relief; sometimes town, sometimes country. A very slight change, as from one street to another, or from one house to another, has been known to check the attacks. As a rule, elevated regions, as hill stations, do not suit asthmatics, on account of the greater rarefaction of the air.

When a fit of asthma occurs, especially if the patient is in a strange place, inquiry should be made as to the existence of locally tainted air; as from a neighbouring brick-kiln, from works where sulphur is used, &c., and the asthmatic will do well to leave such a locality immediately. With reference to asthma being sometimes caused by the aroma from hay, as mentioned below, it may be well to state that asthma has been known to be excited by the smell of ipecacuanha, also by the effluvium from horses, wild beasts, guinea-pigs, rabbits, cats, dogs, or even from the skins of animals. The fact that asthmatics of peculiar idiosyncrasy may be thus affected should be borne in mind when searching for a cause of recurring attacks.

ASTHMA, HAY.—This malady is known by various

names, as *hay fever*, *pollen fever*, *rose cold*, *grape cold*, *peach cold*, *Roman wormwood cold*, *spasmodic sneezing*, *spasmodic catarrh*, and scientifically *vaso-motor coryza*. Some persons possess a peculiar ill-understood nervous irritability of constitution; or at least local irritability of the nasal passages to particular atoms floating in the atmosphere. It is in fact an idiosyncrasy, several of which have been noted at p. 7. For while some persons are affected when hay is ripening, others are not affected from hay, but suffer when certain other vegetable productions bloom. It is perhaps most frequently excited by hay pollen floating in the air, and it thus occurs, in England and India, more especially during the hay-harvest. There is, however, reason to believe that it may be excited in those predisposed by exposure to heat and dust. The symptoms are spasmodic sneezing (which is sometimes the chief or only symptom), watering of the eyes, feverishness, often cough and expectoration, and sometimes spasmodic attacks of difficulty of breathing.

Treatment.—Removal from the locality where the attack takes place is the most certain cure. If this cannot be accomplished, the person may use snuff occasionally and take Recipe 55; and 2 drachms of a solution of quinine (2 grains in 1 ounce of water) may be injected twice daily into the nostrils. Or if the instrument is available, the patient should inhale the quinine solution through the nose from an ordinary hand-spray producer as used for scents, taking care that a spray reaches the back part of the nostrils, which will be known by the taste. A mixture of quinine 1 grain, camphor 2 grains, with starch 3 grains, used as snuff, is sometimes very beneficial.

[An ointment, composed of 1 grain of morphia, 10 grains of quinine, and 3 drachms of spermaceti ointment, smeared on the outside of the nostrils, may also be used. A cocaine tablet (Burroughs & Wellcome), containing one-sixth of a grain slightly moistened and introduced into

each nostril, has been found to give immediate relief. The tablets adhere and cause no pain. Or a solution of cocaine (strength from 5 to 15 per cent.) may be applied with a camel's-hair brush, or used with the hand-spray. As internal medicine iodide of potassium 3 drachms; arsenical solution (Liquor Potassæ Arsenitis) minims 30; water 6 ounces. A tea-spoonful every four or six hours.]

ATROPHY.—This term signifies wasting, and is the name generally applied to the wasting of children. For the maintenance of a healthy state of the body, a certain supply of nutrition is required to meet the waste which is constantly going on. When from any cause the supply of nutrition is not able to meet this waste, the natural dimensions are reduced. Atrophy may therefore arise from a variety of causes. It may be caused by merely withholding the necessary supply of nutritious food without any actual disease, as occurs from feeding too exclusively on farinaceous food. In children up to twelve months old or thereabouts it may generally be referred to unsuitable food. Atrophy of children sometimes leads to a habit of eating dirt or lime plaster from walls; the habit probably originating from a craving of the child for other food than that supplied. Between one and three years old, atrophy is often associated with a rickety condition of system, or with worms. After the age of three, especially in children having an hereditary scrofulous taint, atrophy is usually associated with tubercular enlargement of the glands of the bowels, known as *the mesenteric glands*, or with worms, or with tubercular affection of the brain, commonly called ‘water on the brain.’ After six, with scrofula and phthisis. When atrophy occurs to adults it is usually in connection with consumption, kidney diseases, or from climatic or malarious influences. Should unsanitary conditions of life be superadded, such as impure air, confinement in crowded buildings, exposure to emanations from sewers, the course of atrophy from any cause is more rapid. Atrophy, there-

fore, unless it arises from bad feeding, can only be combated by treating the maladies or conditions of the system of which it may be the early indication, or with the progress of which it may be associated.

The *symptoms* of atrophy when caused by bad feeding, or when originating from an undeveloped condition of the diseases named, are as follows. The approach is insidious, and consists of languor, drooping, lassitude, and loss of flesh. Sometimes the face remains full while the body and limbs waste. Although at first there may be no strongly marked fever, close observation will show heat of skin in the evening, perspiration in the night, and languor and debility in the morning, while the child looks pale and listless, and the appetite is lost. Then, if the atrophy arises from bad feeding, vomiting, diarrhœa, or dysentery occurs. If the atrophy depends on a rickety condition of system, the symptoms given under Rickets (p. 371) gradually develop. If the atrophy depends upon worms, the child will be constantly picking the nose, lips, or fundament, and other symptoms noted under Worms (p. 483) will present. If the atrophy depends on enlargement of the glands of the bowels, known as the *mesenteric glands*, the malady is called *tabes mesenterica*. The belly grows large, and the glands of the bowels being diseased, constipation alternates with diarrhœa, and fever of a hectic character (*vide* p. 269) and night perspirations become more apparent. The bowels now grow hot and tender to the touch, and the enlarged glands may be distinctly felt hard and knotty underneath the skin. There may be frequent vomiting, and the feet may swell. As the disease advances the evacuations change, becoming slimy, bloody, and sour-smelling; the breath is very offensive; and the urine is scanty, depositing a whitish sediment. The appetite is very capricious; the skin is extremely irritable; and the child, instead of being plump and rosy, presents the aspect

of shrivelled old age. The more the child wastes, the more restless and irritable does it become, until it dies from diarrhœa and exhaustion. If the atrophy is dependent on scrofula, consumption, or Bright's disease, the symptoms noted under such headings gradually develop. If atrophy depends on malarious influences, the secondary conditions are anæmia, masked malarious fever, or spleen affections (pp. 46, 266, 412). In addition to the above, atrophy may be complicated with attacks of *infantile remittent fever* (p. 263), with swelling and abscess of the glands of the neck, and with skin diseases, all of which are more likely to occur when the condition of atrophy is present, especially if arising from improper feeding.

Treatment.—The treatment of atrophy is rather dietetic and hygienic than medicinal, especially when it arises from improper feeding. And when it arises from other causes, the treatment of such other causes is required. But in any case pure air must be ensured, particularly in sleeping apartments. The nature of the food must be scrutinised, and care be taken that the patient is not suffering from the effects of a too exclusively farinaceous diet (*vide Remarks on the Feeding of Children*, Chapter V.) Much of the wasting and accompanying dysentery from which children in India, and particularly the children of soldiers in barracks, suffer arises wholly or partly from want of proper food, which the parents are either unable to obtain, or regarding which, from ignorance or carelessness, they do not take sufficient care. But while attending to diet other matters must not be neglected. Worms if present must be expelled (*vide Worms*, p. 482). Diarrhœa must be treated by appropriate remedies (*vide Infantile Diarrhœa*, p. 172). If the teeth are troublesome the gums must be lanced (*vide p. 434*). Tonics, especially quinine, in doses according to the child's age (*vide p. 19*), should be given. When the bowels are large the abdomen should be gently

rubbed daily, for some minutes, with equal parts of brandy and salad oil. Lastly, change of air, milk, baths, and sea-bathing, or at least bathing in sea-water, are important adjuvants in the treatment of lingering cases.

[One of the various malt foods will generally be desirable, regarding which remarks will be found in Chapter V., *On the Feeding of Children*. For the atrophy of children 'Kepler's Extract of Malt' may be specially recommended. Or still better, if available, a fresh infusion of malt. This is made by steeping 1 ounce of bruised malt for two hours in a pint of cold water. Of the strained solution from 4 to 6 ounces daily may be given to a child three years old. Burroughs & Wellcome's 'beef and iron wine' is also generally advisable.]

BED-SORES.—When patients, whether from disease or from injury, have to lie long in bed, and especially when they are obliged to lie long in one position, sores are apt to form on those parts of the body subjected to the greatest pressure. It is really the death of the part from long-continued pressure. Thus the back, hips, buttocks, heels, and elbows are liable to suffer, and when a patient is likely to lie long in bed, the commencement of bed-sores should be guarded against from the first. The pressure producing the sore diminishes the sensibility of the part affected, so that the patient himself may be unaware of the formation of a sore. It is therefore necessary that his word should not be accepted on the point, and that examination should be frequently instituted. Want of cleanliness and moisture, especially moisture from urine or fæces, irritates the skin, and renders bed-sores much more likely, and therefore, as preventive measures, great care must be given to these points. In all cases close attention should be paid to keep the bed smooth and the sheets free from 'rucks' or folds. Corded or feather beds should not be used. The best is a horse-hair mattress placed on a second or spring bed. The parts most subjected to pressure should be from the first bathed twice daily with a

wash, composed of a drachm of alum dissolved in four ounces of water, which will tend to harden the skin. Plasters should never be used, as they are liable to wrinkle, and thus cause irritation, and they prevent the condition of the parts being seen. Small pads, or pillows, or air-pillows, or water-cushions, should be made use of to relieve the parts most exposed to pressure. Frequently a pillow of circular shape, with a hole in the centre, will be found very useful. When a bed-sore is about forming the skin becomes reddened. If the pressure is not relieved, the part assumes a dusky appearance, afterwards becoming blistered. Then a grey or blackish slough forms, with discharge of thin matter. In such a condition, a poultice made of powdered charcoal should be applied, until the slough separates, after which water-dressing (Recipe 85). No application will, however, be of service unless *pressure* is removed from the part by the use of pads and pillows, as above mentioned. As the condition is attended by great debility, nourishing broths, stimulants and tonics, as quinine (Recipe 66), will be required. In all cases of bed-sores the apartment must be kept well ventilated, and disinfectants should be used (*vide Appendix*, No. 120); the smell from the affected part being always very offensive.

[Instead of water-dressing, if procurable, one part of carbolic acid to 50 parts of salad oil; or *antiseptic cotton wool* specially prepared for such cases, should be used. The use of the artificial sponge mentioned at p. 497 is also desirable.]

BLADDER, INFLAMMATION OF THE.—Inflammation of the bladder may be caused by injuries, by exposure to cold, by irritation from a stone, or it may be connected with stricture, or arise from the extension of a gonorrhoeal attack. It may be excited by an over-dose of copaiba or of cantharides. It may result from the unskilful use of instruments. It may be a consequence of prolonged

labour, or arise from females, after delivery, neglecting to empty the bladder. Shivering often occurs at first, followed by mental depression, fever, thirst, and pain with soreness on pressure over the bladder, or in the lower part of the belly. Pressure in the fork between the legs is also very painful, where there is generally a sense of weight or burning. The urine is voided frequently and in small quantities, often with great straining, followed by aggravation of the pain and burning. The urine also contains a mucous deposit, and sometimes blood. Females often void flakes of mucus much larger than can pass from males. In exceptional cases the inflammation may extend to the bowels, causing peritonitis (*vide* p. 79), or to the kidneys, causing interference with the secretion of urine, when the patient may become delirious and sink into a typhoid condition (*vide* p. 242) or suffer from *Uræmia* (*vide* p. 55).

Treatment.—A hot bath will generally be advisable, and fomentations (*vide Appendix*, No. 80) should be afterwards applied over the lower part of the bowels. Barley-water (*vide Addendum*) should be prescribed *ad libitum* as a drink, and for thirst and feverishness effervescing draughts of citrate of magnesia (*vide* p. 15) should be taken. The bowels should also be opened by sulphate of soda draughts (Recipe 2), and clysters of warm water (Recipe 104) will probably be required to relieve pain. At night an opiate, as 10 grains of Dover's powder, or 15 grains of chloral, will be generally advisable; the Dover's powder being most useful when the skin is hot and dry. The patient should be kept in bed, and be restricted to low diet, such as milk, broths, and light puddings.

BLADDER, CHRONIC INFLAMMATION OF THE.—

Acute inflammation of the bladder sometimes subsides into a minor degree, which may be long continued, becoming,

as it is then called, *chronic*. Or it may arise very gradually without the more marked symptoms referred to above. This condition mostly occurs as a result of gonorrhœa or gravel; or in elderly persons in connection with enlargement of a gland situated round the neck of the bladder (*vide* p. 366). It may also be a sequence of stone or of stricture, or of disease of the rectum or kidneys, or it may follow accidents to the spine (*vide* p. 557). It also occurs when the bladder participates in attacks of paralysis (*vide* p. 342). It may result from atony of the bladder in old people who are unable to expel their urine. In chronic inflammation of the bladder the symptoms are those of the acute form, but in a minor degree; and there is, in addition, a discharge of thick ropy mucus with the urine, which adheres to the side of the vessel, smells ammoniacal, and often presents whitish-looking lines or streaks, which are caused by the *phosphate of lime* formed from the urine within the bladder. The urine is also sometimes bloody.

Treatment.—Medical aid should be obtained as soon as possible, in order to ascertain if there is stricture (*vide* p. 419), or enlarged prostate (*vide* p. 366), or stone or tumour in the bladder (*vide* pp. 73, 74), or any affection of the kidneys (*vide* p. 101) or of the rectum (*vide* p. 272). In the meantime, the patient should keep himself in the recumbent posture as much as possible. Pain and irritation may be allayed by warm hip baths, or by enemata of warm water (Recipe 104). The bowels should be maintained open by mild aperients (Recipe 2). The diet should be nourishing but plain, with weak gin-and-water or sound sherry in small quantities.

[For chronic inflammation of the bladder not depending on organic changes, as stricture, stone, or enlarged prostate gland, Recipes 27, 28, 31 may be tried in the order named. No sugar should be used with the diet, but 'saccharin tablets' may be substituted.]

BLADDER, STONE IN THE.—Stone in the bladder is in consequence of a diseased condition of the urine, and is most prevalent in localities where the water contains lime. It is often one of the results of *gravel* (*vide* p. 285). When stone is present there is acute pain, aggravated by motion, and worse after making water. There is also frequent desire to make water, with itching and smarting at the end of the penis. This induces children to pull the foreskin continually, which becomes elongated, and often red and inflamed. There is also frequently sudden stoppage of the stream of urine, owing to the stone rolling in front of the passage, and the fluid passed is sometimes bloody. In children especially there is much straining at stool, and usually protrusion of the lower bowel outside (*vide* p. 84). The early symptoms of stone often resemble those of enlargement of the prostate (*vide* p. 366), or of stricture (*vide* p. 419), or of tumour (*vide* p. 74), and instrumental examination is frequently necessary to decide the point. There are various kinds of stone, and the only remedy is surgical operation. Sometimes a small stone passing out of the bladder lodges in the urethra or urinary passage, requiring surgical operation also.

BLADDER, OTHER DISEASES OF THE.—Other maladies to which the bladder is liable are as below:—

IRRITABILITY OF THE BLADDER is marked by frequent desire to make water without evident cause. This may depend in elderly persons on incipient disease of the prostate gland (*vide* p. 366); or at any age on stone (*vide* p. 73); or on gravel (*vide* p. 285); or on fissure of the anus (*vide* p. 272). It may arise from constipation, when hard faecal matter in the lower bowel presses against the bladder (*vide* p. 137). The irritation caused by worms is also a cause (*vide* p. 483). It sometimes occurs to children who are overworked. But irritability of the bladder may arise *temporarily* from cold as experienced at

the commencement of the cold season, or on change to a colder climate. It may also follow various drinks, especially of an acrid nature, or it may be due altogether to nervousness. When inability to hold the urine occurs to adults, and there is no evident disease, or cause as above, explaining the defect, 15 to 20 grains of chloral given at night will prove an effectual remedy. As the malady grows less the quantity of chloral should be diminished, till the person is able to do without it. A drop of creosote made into a pill with bread, and taken at night, is beneficial.

NEURALGIA OF THE BLADDER is marked by periodic pain, and is benefited by quinine (Recipe 67), or arsenic (Recipe 75).

PARALYSIS OF THE BLADDER is marked by inability to pass urine. If not relieved the bladder becomes full, when the urine dribbles away. Paralysis of the bladder may be *temporary* from cold, or from retaining the urine too long, or from hysteria (*vide* p. 306). Or it may be permanent from injury or disease of the spine (*vide* pp. 343, 557) or as a consequence of apoplexy (*vide* p. 53). Temporary inability to pass urine may usually be relieved by a hot bath and a dose of chloral. Permanent paralysis requires the treatment mentioned under the headings causing it.

TUMOURS OF THE BLADDER.—The bladder is subject to several kinds of morbid growths, the principal of which are *polypus*, chiefly occurring in children; a growth known as *papilloma* (meaning small conical eminences); and *malignant* or *cancerous* growths. The symptoms are at first only a little frequency of making water, and eventually blood in the urine, which may first occur after exercise. The blood is often passed at the end of micturition, the urine at first flowing clear and natural. Pain is not much complained of unless the flow of urine is

interfered with by clots of blood. As the disease progresses it causes weakness and exhaustion. Some forms of tumour may be removed by surgical operation, but medicine is not of much benefit.

BOILS.—Boils differ from abscess by containing a *core* (*vide Abscess*, p. 39). They are common in India, either occurring singly, or several at one time, or in successive crops. They may be of various sizes, from that of a pea to the bulk of an egg, or larger. Large boils most frequently occur on the limbs, on the back of the neck, in the armpit, or about the buttocks, and are often long before coming to a head. In some instances after pain and swelling have occurred they gradually subside without the formation of matter, and are then popularly termed ‘blind boils.’ Small boils frequently present on the scalp, when hundreds may sometimes be counted. The cause of these Indian boils is in most instances blood-deterioration, caused by length of residence, heat, scurvy, impure atmosphere, improper food, overwork, or attacks of fever, or *anæmia* (*vide* p. 46). In persons predisposed by such influences, accidental local injury, or irritation, will often excite them. Boils may also result from poisoning of the blood (*vide* p. 587). In children boils may attend teething. Boils sometimes attack new comers, or persons who have suddenly changed their residence from one part of India to another. For instance, after a long period spent in the Upper Provinces, change to the moister climates of the sea-coasts is often followed by boils. Boils are sometimes erroneously attributed to eating mangoes; the fact being that the mango season, or shortly after the mango season, is the period of the year when, owing to the intensity of the heat, and the resulting blood-deterioration (*vide* Chapter VI., *Heat*), boils are most common. Occasionally boils present in persons who declare they ‘never felt better in their lives.’ But notwithstanding

this, the occurrence of boils must always be accepted as evidence of something wrong in the system. Very large boils are termed carbuncles (*vide* p. 113).

Treatment.—In all cases of boils the condition of the general health must be attentively considered, and the patient treated accordingly. If the tongue is furred and the digestive organs out of order, aperient doses, as Recipes 1 and 2, or for weakly persons citrate of magnesia (p. 15), will be required. If there is reason to suspect scorbutic taint, evidenced by tender, spongy, or bleeding gums; or even if these signs are not recognised, if the person has been in a locality where fresh vegetables were scarce, two or three ounces of lime-juice should be taken daily, and any green vegetables procurable. If syphilitic taint (evidenced probably by eruptions on the skin) is present, Recipe 19 should be taken, until the medicine mentioned in the small type can be procured. If malarious or anæmic taint (p. 47) exists, quinine (Recipe 66). If no particular taint is evident, Recipe 3, with or without the sulphate of soda, according as the bowels are constipated or the reverse, may be taken with advantage.

Local treatment consists in poultices, which may be of linseed meal, or of flour, or of figs—the latter remedy being as ancient as the Book of Kings. When matter forms, the most prominent part should be pricked with a clean lancet. In short, the whole surgical treatment should be that recommended for abscess (*vide* p. 41). Or if the boil is small, sluggish, and long in coming to a head, the old-fashioned remedy of yellow soap and sugar mixed in equal parts into a thick paste, and spread on wash-leather, may be applied. The piece of leather should be sufficiently large to cover the whole of the boil, and should be kept in place by a bandage. Or a paste of honey and flour may be used instead. Spirits of camphor (*vide* p. 24), applied every three hours and allowed to dry

on the part, if used sufficiently early, will sometimes disperse sluggish boils. Ulcers or sores, remaining after a boil ceases to discharge matter, should be treated by water-dressing (Recipe 85), or by simple ointment (Recipe 86).

[Iodine paint (*Liniment of Iodine*) is a better remedy for dispersing boils. It should be applied with a feather or brush over, and for an inch or two round, the boil, three times the first day, and less frequently afterwards, so as to maintain an irritation of, but *not* to blister, the skin. Equal parts of belladonna liniment and glycerine, smeared over the boil *before* the poultice is applied, tends to subdue the inflammation. If there is reason to suspect a scorbutic taint of the blood, while the diet should be arranged as recommended under *Scurvy* (p. 382), Recipe 46 should be procured and used. If a syphilitic taint is suspected, Recipe 74 will be desirable. If no particular taint is evident and boils still present, Recipe 75 should be taken as a tonic. A tenth of a grain of sulphide of calcium, given every two or three hours, generally prevents the formation of fresh boils, while it lessens the inflammation, and reduces the area of the existing boils, and quickly liquefies the core, so that its separation is much more speedy. This may be taken in addition to any other of the remedies noticed.]

Boils presenting somewhat varied characters, and occurring in different parts of the East, are often spoken of as if peculiar to that part of the country; as, for example, Aden boils, Scinde boils, Gwalior boils, Delhi boils, Panjdeh sore, Persian ulcer, and Bagdad boils. The Bagdad boil, commonly called the 'date mark,' is the counterpart of the 'Aleppo bouton,' and disfigures, generally in the face, nearly every child born at Bagdad, but attacks adults on some other part of the person. But there is nothing radically different in these boils from any others. What is called the Delhi boil, for instance, is not confined to the city of that name. Neither is it a new disease. For it has been known for many generations under the native name of Arungzebe—after the Emperor of Delhi so called, who suffered from it. A similar boil is common at Muttra, at Agra, at Moultan, and throughout the semi-desert districts of Western

India. The Delhi and similar sores commence as a pimple, and may continue in that condition for some months; then, gradually increasing in size, they break on the surface, becoming unhealthy-looking ulcers or sores, which often leave disfiguring scars. The parts most frequently attacked are the elbows, fore-arms, backs of the hands, ankles, legs, face, and thighs; rarely the trunk, and never the scalp.

Delhi and other similar sores have been thought due to the presence of a parasite, but the evidence is not conclusive. They are, however, always connected with blood-deterioration, and are especially associated with that condition, perhaps at first latent and undetected, arising from the combined effects of scorbutic taint, of malarious influences, of exposure to long-continued heat, of residence in insanitary localities, aided sometimes by a syphilitic taint. The treatment should be decided upon after due inquiry as to which of the influences mentioned has been most powerfully in action. If a scorbutic taint is suspected, fresh vegetables and Recipe 67 will be indicated. If malarious influences are prominent, Recipe 66. If heat appears the cause of debility, removal to a hill station, or the journey home, is the desirable measure. While of course all insanitary conditions must be remedied, particular attention should be given to the water, which should be filtered and prepared for drinking, as recommended under the head *Water*, Chapter VI. The comparative immunity now enjoyed by the residents of Delhi from so-called Delhi boils is doubtless due to the hygienic improvements which have been gradually introduced during the past few years.

Local applications should in the first instance consist of water-dressing (Recipe 85); and when it is concluded, from throbbing pain, or increasing size if pain is absent, that matter is forming, poultices should be applied, of

whichever variety is most readily procurable (of the Recipes 77, 78, 79). When, after the discharge of matter, sores form, stimulating applications will generally be required, and a lotion, composed of 20 grains of sulphate of iron (the *Hera-kusees* of the bazaars), dissolved in six ounces of water, may be employed in the same manner as water is to be used in the water-dressing application (Recipe 85). When the sores become healthy and are inclined to heal, simple water-dressing will be the most suitable application.

[If during the process of Delhi or other sore, as mentioned above, scorbutic taint is suspected, Recipe 46 should be procured. When, after the discharge of the matter, the remaining sore requires stimulating, the ointment (Recipe 93) should be obtained and used instead of the sulphate of iron lotion given above.]

BONES, DISEASE OF THE.—The bones are subject to numerous diseases, the principal of which are scrofulous affections. Fixed, dull pain in a bone, as the shin bone, for instance, increased at night, is generally the first sign, which is eventually followed by redness, swelling, and abscess, either in the bone itself, or in a neighbouring joint (*vide* p. 312). The first symptom mentioned should lead to early application to a surgeon. In the meantime the part should be kept at rest, and chloral may be given to relieve pain.

BOWELS, INFLAMMATION OF THE.—In this term are included the different distinctions, as *peritonitis* and *enteritis*, drawn by physicians. Inflammation of the bowels or of their covering (the peritoneum) is marked by fever, and severe continuous burning pain in the belly, *increased by pressure*. The patient lies on his back in bed with the *knees drawn up*, afraid to increase the pain by movement. If the breathing is watched it will be seen that the belly is nearly motionless, whereas in health it rises and falls. But when inflammation is present, movement of the part is so painful that breathing is performed altogether by

the muscles of the chest. There is generally costiveness, nausea, or vomiting, great prostration of strength, and an anxious expression of countenance. The pulse is frequent, and *wiry* to the touch, and the urine is highly coloured. In fatal cases pain increases, the bowels become swollen and *tympanitic* or drum-like from accumulation of gas within, the extremities grow cold, the skin is bathed in cold perspiration, the features are sharpened, pain suddenly ceases, and the patient dies. Inflammation of the bowels must be carefully distinguished from *colic*, in which there is intermitting twisting pain, *relieved* by pressure, the patient often rolling about to obtain ease (*vide Colic*, p. 131).

The *causes* of inflammation of the bowels are various. It may arise from cold, as, for instance, from sleeping with the bowels exposed to a current of cold air. It may be caused by injuries over the bowels, or by some substance lodged in, irritating and inflaming the bowels. In this manner it may be a sequel of colic. It may occur in the course of certain fevers, or as an extension of inflammation of the womb or bladder.

Treatment.—Continued fomentations with hot water over the whole of the bowels (*vide Appendix*, No. 80). A cradle (*vide* p. 555), to support the weight of the bedclothes from the tender bowels, is generally required. Placing the hands above the head renders the breathing easier. Clysters of warm water and soap (Recipe 104) should be injected every day; but purgatives should *not* be administered, unless costiveness prevailed previous to the attack, when a dose of castor oil will be proper at the outset. For the relief of pain and to procure sleep, a chloral draught (Recipe 64) may be taken at night. Fluid diet *only*, as weak tea, beef-tea, chicken-tea, and broths (*vide Addendum*), should be given. Iced water or iced barley-water may be allowed.

[In a case of decided inflammation of the bowels or their coverings, in an adult, as evidenced by the symptoms above detailed, calomel and opium pills (Recipe 23) should be procured if possible, and should be given until the gums are slightly tender, or until a metallic taste is experienced in the mouth, when the medicine should be immediately stopped.]

BOWELS, INFLAMMATION OF THE CÆCUM OF THE, OR TYPHLITIS.—Portions of the bowels known as the CÆCUM, and APPENDIX VERMIFORMIS, are sometimes affected, independently of the other part of the intestines. The *cæcum* is the commencement of the larger portion of the bowels, or the point of union between the large and small intestines, and the *appendix vermiformis* is a short blind tube attached thereto. They are situated on the right side above the groin (*vide* plate, p. 29), and are the parts of the intestinal tube in which *obstruction* often commences (*vide* p. 82). The peculiar shape and formation of the parts is more favourable than that of any other portion of the intestines to the lodgment of such things as fruit-stones, gall-stones, portions of unripe apples, worms, or even pieces of hard faecal matter, round or above which other faecal matter stagnates. When only the cæcum and appendix are inflamed the pain and tenderness are limited to the part, and there are no symptoms of obstruction (*vide* p. 82). But inflammation commencing in the cæcum may spread to the whole of the belly, when the symptoms are as previously detailed. In both cases the treatment is the same as for inflammation of the bowels, fomentations being applied to the most tender part. Recurring attacks of typhlitis, probably excited by something lodging in the parts, may lead to abscess, and the propriety of an operation should be considered.

[The *cæcum* is also liable to a *chronic* or slow form of inflammation, which may arise without any evident cause, or which may be the sequel of an attack of *obstruction*. The symptoms are at first apparently trifling, and the malady may therefore remain for some time unrecognised,

and unattended to. There is a vague failing of the general health, comparative weakness, gradual loss of flesh, and occasional transient, colic-like pain, in the position indicated above. Or these slight transient pains may occur at first, without any decided deterioration of the general health. As the malady progresses there is loss of appetite, much flatulence, diarrhoea alternating with constipation, and more decided and permanent local pain. At length the internal coat of the bowel ulcerates and there is an increase of all symptoms, with mucus or slimy discharge streaked with blood as in dysentery, and sometimes large quantities of pure blood are passed.

A malady of the kind always demands skilled advice. Broadly speaking, the treatment consists in nourishing and easily digested food ; in the frequent application of some counter-irritant, as iodine paint or mustard leaves ; in the administration of tonics, of which the mineral acids with quinine will be best (Recipe 69) ; and in the prevention of constipation or of diarrhoea—whichever condition may prevail—by the appropriate remedies.]

BOWELS, OBSTRUCTION OF THE.—This affection, in which the patient is unable to pass stool, may commence suddenly as an attack of colic (*vide Colic*, p. 131). Or it may commence gradually, probably after dyspeptic symptoms, with inflammation of the cæcum as described above. The constipation not being relieved by medicine, vomiting, first of the contents of the stomach as partially digested food, then of sour bilious material, and lastly of faecal material (as described in *Rupture*, p. 591), occurs, accompanied by much tenderness, pain, and distension of the bowels. Very often a hard lump may be felt somewhere in the bowels, most frequently on the right side, over the cæcum (*vide plate*, p. 29). The neighbourhood of this lump, which should be searched for, is always most painful ; the tenderness and distension radiating from this position to other parts, until perhaps the condition above described as inflammation (of portions, or of the whole) of the bowels may be set up ; or, the acute symptoms being relieved, chronic inflammation of the cæcum (*vide p. 81*) or an abscess may occur as an insidious and distant result.

Treatment.—In the first place, remedies calculated to

remove constipation should be given, and castor-oil or sulphate of soda (Recipe 2) may be used. The action of the purgative should be aided by an injection (Recipe 105), and the belly should be well fomented (*vide Appendix*, No. 80). A hot bath should also be taken. If the part is not too tender, gentle pressure or kneading with the fingers may be used, but it must not be continued if it causes pain. If these remedies do not succeed, 20 grains of chloral (Recipe 64) should be given three times a day, and a large quantity of warm water (about two quarts) should be injected several times daily. The patient should be kept perfectly quiet, and *fluid diet only* should be allowed, in small quantities; for the more freely food and fluid are partaken of, the greater will be the distension, pain, and danger. The best diet will be extract of beef, or strong soup, thickened with flour or eggs, or, still better, raw-meat soup (*vide Addendum*). Thirst may be relieved by sucking ice or frozen milk, or by washing the mouth with cold water. The continued giving of purgatives is useless, as often some part of the gut is twisted, or tied into a knot, or otherwise slipped inside itself, as the finger of a glove is when folded back on itself. In such cases the best chance of recovery is from opiates and perfect rest. Surgical operations have been performed for the relief of obstruction of the bowels, the propriety of which would require the sanction of a medical consultation. During convalescence, and for long afterwards, much care in diet, and particularly measures to avoid constipation, are necessary; otherwise affection of the *cæcum*, as described at page 76, may result.

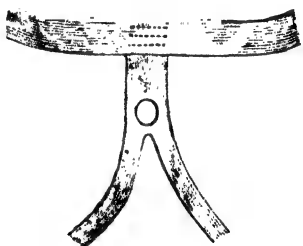
[In young and robust persons, at the early period of the disease, instead of castor-oil or Recipe 2, as recommended in the large type, give, if procurable, one-tenth of a grain of tartar emetic, and 1 drachm of sulphate of magnesia in 2 ounces of water every hour, up to eight doses, which often aids in breaking up and removing the obstruction. In

cases of obstruction of the bowels, after purgatives and choral have failed, 1 grain of hydrochlorate of morphia with 5 grains of extract of belladonna should be given twice a day. A drop of chloroform or of creosote taken on a lump of sugar will often relieve the distressing vomiting present in these cases.]

BOWELS, PROTRUSION OF THE.—This affection, which occurs principally to children, but sometimes to old people, is met with in every degree, from the mere protrusion of a ring to the protrusion of half a foot or more. At first the tumour is bright red, and mothers, seeing this for the first time, are often much alarmed without due cause, as it is not a dangerous affection. If the bowel often comes down, it gradually becomes thickened and callous and more like skin. Children who have been much relaxed, as from dysentery or diarrhœa, or from the too frequent use of purgatives, are very subject to the affection. Or it may be a consequence of the irritation excited by stone in the bladder (*vide* p. 73), or by thread-worms (*vide* p. 486), or by phimosis (*vide* p. 346). Or the malady may arise from nurses allowing children to sit on their chairs too long. Often it occurs from pure debility; a cough even in feeble children being sufficient to bring the gut down. The gut, when it at first presents, returns by its own elasticity. Afterwards, although thus returning, it comes down again immediately. In old cases, the tumour requires to be replaced.

Treatment.—To find out the cause of the affection is the first aim, as on removal of the cause the effect will generally cease. The presence or absence of worms, or of stone, must be assured. Constipation or diarrhœa, if present, must be first treated (*vide* pp. 138, 172). The child should not be allowed to sit on the chair for more than two or three minutes, and if the bowels are unrelieved, the patient should be placed on it again after some little interval. The protrusion of the bowel may often be

prevented thus. When the child is about to have a stool, let the nurse with her fingers draw the skin of the buttocks outwards, so as to render it quite tight over the fundament, and hold it in this position till the motion is finished. If the bowel comes down, the child should be laid on its face, the legs should be widely separated, and the protrusion should be lubricated with salad oil. Then it should be gently grasped with the points of the fingers enveloped in a damp, soft, oiled cloth or handkerchief, and steadily but gently squeezed for about half a minute to empty it of blood. Then it should be gently pushed up. But the utmost gentleness must be observed; for with pain from rough handling resistance is produced, and with it increased difficulty of replacement. In cases of *recurring* protrusion, before applying oil as above described the part should be sopped with alum water (Recipe 42). In all cases when much of the bowel has descended the child should not be allowed to sit up for an hour or two afterwards, but should be kept in the horizontal posture, which will admit of the parts recovering strength and elasticity to retain their natural place.



If the protrusion cannot be easily returned, it will be best to apply a bread poultice for a few hours, after which the gut will probably return, or it may be replaced by pressure with the damp oiled cloth. If the protrusion will not remain up, a band should be put round the waist, and another band dividing into two past the anus (*vide* sketch) should be brought from this band at the middle of the back, between the legs, and the ends should be separately fastened in front. Where this latter band passes over the anal orifice, a large cork rounded at the

end should be attached, the pressure of which, if rightly adjusted, will prevent the falling down of the bowel. Various belts are sold for the purpose, but the home-made belt as figured is efficacious. In bad cases the sitting posture at stools should be wholly prohibited, and motions should be passed while the child is lying down. Children subject to this affection generally require tonics, and salt-water bathing is often advantageous. Whatever improves the general health will also give increased strength to the parts which naturally support and retain the bowel in its position.

BRAIN, CONGESTION AND INFLAMMATION OF THE.

—These serious disorders may be the result of injuries, may occur during fevers, may be caused by exposure to heat, may arise from excessive mental toil and anxiety, or from the extension of *erysipelas* (*vide* p. 220) to the inside of the head.

Symptoms.—Congestion or fulness of the brain is ordinarily the first condition of subsequent inflammation. It is marked by dull oppressive pain in the head, restlessness, feverishness, intolerance of light, and nausea. If the malady goes on to, or commences as inflammation, all the symptoms are exaggerated. There are shivering, flushes of the face alternating with pallor, great pain in the head, and especially of the forehead of a burning character, vomiting, high fever, intolerance of light, sleeplessness, delirium of a violent character (*vide* p. 159). In the second stage of the malady there is an effusion of the products of the inflammation on the surface of the brain, or in its substance or cavities. The pulse then becomes slow, the pupils become dilated, there is deep insensibility, and sometimes convulsions. Death, palsy, or perfect recovery may result.

Treatment.—When there is simply congestion, purgatives and quiet are the remedies, by the judicious use of

which many cases have been prevented from passing into inflammation, or into apoplexy or paralysis, of which congestion of the brain may be the warning (*vide Apoplexy*, p. 53). But if there are shivering and flushes, vomiting and high fever, with burning pain in the head, the hair should be shaved off, and a bladder of pounded ice should be applied to the forehead and scalp. Or if ice is not obtainable, cold evaporating lotions (Recipe 83), or vinegar and water, should be used. The bowels should be freely acted upon daily by sulphate of soda (Recipe 2). The patient should be kept in a darkened room, and perfect silence and quiet enjoined. No stimulants should be given, and the diet should consist entirely of beef-tea, broth, and milk-and-water. No opiate or sleeping-draught should be given without medical advice. It is a disorder urgently requiring the assistance of a skilful physician.

[If the bowels are not freely opened, a little croton oil should be obtained if possible, and two drops should be given rolled up with a little gum and water into a pill or pills. If the patient is delirious and will not swallow, the oil should be placed on the back of the tongue with a feather.]

BRAIN, SOFTENING OF THE.—This disease is in many instances caused by the want of a proper supply of nourishment to the brain-substance, and may arise secondarily from affections of the vessels supplying the brain with blood. A condition of softening of the brain may be caused by alcohol. It may also occur as a result of sunstroke. It is most usually met with in advanced life, and there is little doubt that the exposure of Europeans to the effects of continued tropical heat during a series of years produces a debilitated condition of system, consequent on blood-degeneration, favourable to brain-softening. Great anxiety and excessive study are also accessory predisposing causes. The malady is characterised

by lowness of spirits, headaches, giddiness, loss of memory, confusion of ideas, and at length imbecility and paralysis. Medicinal treatment is of little value, especially if the malady depends on disease of the arteries supplying the brain with blood. Rest, tonics, and removal to a temperate climate would, however, be desirable in any case.

BRAIN, TUBERCLES ON THE.—This malady, popularly but erroneously often called '*water on the brain*,' is also frequently termed *Brain-fever*. It is known technically as *hydrocephalus*, but more correctly as *tubercular meningitis*. It depends on the formation of small tubercles on the surface of the brain, or in the investing membranes, in the shape of small yellowish spots, and the subsequent production of a watery effusion into the cavities of the brain. But sometimes the tubercular deposit is not confined to the brain, but also takes place in the lungs and the glands of the bowels. When this occurs the disease is termed *acute general tuberculosis*.

[Recent researches tend to the conclusion that tuberculosis is a specific disease, due to the introduction into the body of a microbe or *bacillus*, which is followed by the formation of tubercle in the part affected. If in the brain, the disease under consideration arises. If in the lungs, consumption occurs. If in the bowels, mesenteric disease happens. Persons of scrofulous habit are most likely to become the subjects of tuberculosis of any part.]

Tubercular meningitis generally occurs in young children of scrofulous constitution, and is rare after seven years of age. In children thus predisposed it often follows the convalescence from small-pox, scarlet fever, or whooping-cough, or it may be excited by forcing the mental faculties. It is often preceded for some time by loss of general health, the child taking food freely, but not thriving, and suffering from alternating constipation and diarrhoea. There is loss of flesh in the body and limbs, but the face is less affected. The child is fretful and

drowsy ; there are sudden startings during sleep, and often grinding of the teeth. The tongue becomes furred, the breath offensive ; there is also headache, and often a peculiar staggering gait. Except the last-mentioned, the early symptoms are very much like those of atrophy (*vide* p. 66) and of worms (*vide* p. 483). After a variable period, during which these early symptoms may have been so strongly marked as to suggest danger, or so trivial as to have escaped notice, either one or other series of 'head symptoms' present. The child may become the subject of *true hydrocephalus*, or *tubercular meningitis*, or *brain fever*, as described below, or it may suffer from a condition which has been termed *spurious hydrocephalus*, as described at p. 92. The symptoms of these two conditions are different ; they arise from different causes, and they require different treatment. While *true hydrocephalus* depends on a congested and tubercular condition of the brain, *spurious hydrocephalus* arises from the brain being deprived of sufficient nourishment in consequence of a poor and deteriorated state of the blood. *Spurious hydrocephalus* may occur from this cause, before the condition mentioned above as the cause of *true hydrocephalus* has had time to mature ; or spurious hydrocephalus may present in a debilitated child in whom there is no real hydrocephalic condition.

The first symptoms of *true hydrocephalus*, or *tubercular meningitis*, or *brain fever* of children, are, after more or less of the premonitory symptoms noted above, the child being seized with high fever and *obstinate vomiting*, which continues whether the stomach is full or empty. One of the most characteristic symptoms of *hydrocephalus* is *obstinate vomiting* ; and whenever obstinate vomiting shows itself in a vaccinated child, hydrocephalus may be suspected ; if in an unvaccinated child, it may be premonitory of smallpox (*vide* p. 404). The peculiar gait becomes more

staggering, and there is a tendency to cling to surrounding objects. There is squinting, and marked aversion to light, from which the child turns the head away; there is alternate flushing and paleness of the face, which is sometimes sad and frowning, at others vacant and stupid. The skin is harsh and dry, the temperature rising to 102° or 103° every evening. There is severe pain in the forehead, coming on in darting paroxysms and causing the child to scream with a characteristic piercing cry, to which the term *cri hydrocéphalique* has been given. The pain causes the child to put its hands to the head, which is incessantly rolled from side to side. As the disease advances the belly looks shrunken and hollow, but is not tender, the obstinate vomiting continues, the eyes squint, there is delirium, and often repeated convulsions. When not convulsed, the child is generally picking at the bed-clothes, or boring the fingers into the ears or nostrils. When the malady occurs in infants before the bones of the head have united, there is prominence and strong pulsation visible at the *fontanelles*, or where the bones of the head join. In some cases occurring in very young children, before the bones of the skull are consolidated, the head is visibly swollen. Often a fallacious remission of symptoms takes place; but at a later period, or from one week to three after the commencement of the disease, the face assumes an aged expression, vomiting ceases, diarrhoea sets in, the pulse becomes slower, the breathing has a sighing or moaning character, the pupils of the eyes are dilated or they may oscillate, the child becomes drowsy, insensibility ensues, and the child dies. Or death may take place during an attack of convulsions.

When, as previously mentioned as sometimes occurring, the disease attacks the lungs and bowels, symptoms referable to those organs will also arise. When the lungs are implicated there will probably be cough and also expecto-

ration. When the bowels are affected there will be enlargement of the glands and other symptoms, described as *tabes mesenterica* (*vide* p. 67).

Hydrocephalus may be mistaken for *gastric* disorders, or for *typhoid* fever. The distinguishing features are given under *Disorders of the Stomach* (p. 415).

Treatment.—The sick-room should be darkened, if possible, with green blinds. The air should be maintained as fresh and pure as can be, only the necessary attendants being admitted, and the utmost quiet being observed. When the child has to be moved, it should be raised in the most careful manner, without shaking. All sources of irritation must be sought for and removed as soon as possible. Thus, if the child is teething, and the gums are anywhere swollen and tender, they must be freely lanced (*vide* p. 434). If the child is being fed by hand, a wet-nurse should, if possible, be obtained. If there is any suspicion that the mother's or nurse's milk does not agree with the child (when at the breast), a fresh and healthy nurse whose milk is a little older than the patient should be obtained. If the bowels have not been previously loose, a purgative dose of castor-oil should be given. If this does not act freely, the necessity of moving the bowels being urgent, sulphate of soda may be used every four hours (half a drachm at six months, one drachm at one year old) until the bowels are well purged. If the child has been ordinarily healthy and robust, and has not been debilitated by previous illness, one leech for each year of the child's age should be applied to the sides of the head behind the ears. But the bleeding from the leech bites should be stopped (*vide* p. 512) immediately the leeches come off. Cold applications, as powdered ice in a bladder or india-rubber bag, or, this not procurable, evaporating lotions (as Recipe 83), should be constantly applied to the head, and every day a mustard poultice

(half flour, half mustard) or leaf protected by muslin (Recipe 109) may be used to the nape of the neck. When drowsiness or convulsions come on, it may be also desirable to put mustard poultices on the soles of the feet and calves of the legs, alternately. The diet of the child, if weaned, should at first be restricted to milk-and-water and bread jelly (*vide Addendum*), but as the disease advances the strength of the patient should be supported, and raw-meat soup, essence of beef and chicken broth, or panada (*vide Addendum*) may be used. Eventually a little wine-and-water may also be desirable. But notwithstanding all endeavours, this malady frequently ends fatally.

When a child of a family has died of this disease, every hygienic condition should be brought to bear on the next. In most cases it will be better for the child to be nursed by a stranger. Food, climate, and exercise must be carefully considered, and forcing the intellect must be interdicted.

Spurious or false hydrocephalus has the following characteristics. A weakly child becomes heavy and drowsy-looking, but it does not sleep. It moans and whines, occasionally starting with a louder cry. The eyes are half open; there is a *pale* cheek, a *cool* skin, an expression of languor, an absence of any continued febrile symptoms, and in infants a sunken or depressed instead of a swollen and prominent *fontanelle*. A child in this condition will generally be found to have suffered from some loss of blood from long-continued diarrhoea, or from some other exhausting discharge. The treatment of this so-called *spurious* water on the brain must not be that of the true disease. Bromide of potassium (Recipe 20) should be given at once, aided by warmth, nourishing diet, or raw-meat soup, an allowance of wine, careful nursing, and, when the urgent symptoms have passed away, iron

As the matter is important the principal characteristics of the two conditions are contrasted below.

REAL BRAIN-AFFECTION	SPURIOUS BRAIN-AFFECTION
Often no previous prolonged illness.	Always some exhausting previous malady, or perhaps premature weaning.
Always fever, as shown by the thermometer (<i>vide</i> p. 34).	No fever.
Flushed face.	Pallid face.
Intolerance of light.	Not.
Constipation.	Diarrhœa.
Rolling of the head.	Not.
Prominence and pulsation at the fontanelle.	Depressed or sunken fontanelle.
Vomiting constant.	Vomiting only occasionally present.
Depends on a congested or tubercular condition of the brain.	Depends upon want of nutrition of the brain.

If there is any doubt as to the nature of the disease, the fact of other children of the family having suffered from the true affection will indicate that the malady is probably the more dangerous description.

BRAIN, WATER ON THE.—This is a chronic malady coming on slowly and insidiously, so that its origin can scarcely be dated from any particular time. Children are sometimes born with the disease, which slowly developes after birth. But sometimes *water on the brain* is a result or continuance of tubercular meningitis, as previously described. The head often becomes of an immense size (known as the *hydrocephalic head*), but the child may survive for months or even for years. Such cases are always accompanied by wasting languor, drowsiness, irritability, frequent attacks of diarrhœa alternating with constipation, and often tendency to convulsions. Such cases rarely terminate favourably, and medicines are useless.

Parents often express anxiety about the large size of their children's heads, and fear the enlargement, real or

supposed, may be due to water on the brain. It is therefore mentioned that the disease is not nearly so common as is popularly supposed, and that the large size of any child's head is not to be attributed to water therein, unless accompanied by other decided symptoms of the disease.

BREAST, INFLAMMATION OF THE.—This occurs most frequently to nursing-women, but it may present in other females. It may arise from injury, from cold, from too sudden weaning of an infant, or from permitting the breasts to become over-distended with milk during nursing, or in consequence of the death of the infant. It thus frequently follows sore nipples (*vide* p. 97), the pain from the nipple preventing the mother allowing the child to draw off the milk as often as necessary. Sitting up in bed to suckle, and allowing the distended breast to hang down without support; exposing the breast to cold while suckling; imperfectly developed nipples, causing the child to suck or drag too forcibly; the fruitless sucking of a child at a breast containing no milk, are all fertile causes of inflammation. When inflammation happens towards the end of suckling, it is probably the result of over-suckling and weakness. Inflammation of the breast is most common after a first confinement, and is accompanied by sharp shooting pains, fever, and probably shivering, with hardness, heat, redness, and swelling some part of the organ, which is very tender. The pain and tenderness are much aggravated by moving the arm. The secretion of milk is often stopped, but not always, if the inflammation is partial. This may subside, or go on to the formation of abscess in the breast, or it may be cut short by appropriate treatment.

Treatment.—Hot fomentations should be applied, and the breasts should be occasionally but not too frequently emptied by suckling or drawing the nipple. This is best accomplished by the child, or, if the infant has died, by

another child, or by the mouth of the nurse. Otherwise, it may be effected by an instrument sold for the purpose, consisting of a tube with a mouthpiece fastened to a shield to press over the nipple, and which may be used by the patient or by the nurse. Or by cutting off the bottom of a soda-water bottle, applying the mouth of the bottle to the nipple, and then sucking the cut end, when the milk will flow into the interior. The milk should, however, only be drawn when the breast becomes hard, swollen, and painfully distended. Too much drawing promotes further secretion, and tends to aggravate the inflammation. At the same time, too much distension by milk must be guarded against. The feelings of the patient are perhaps the best guide as regards the frequency with which the breast should be emptied. During the intervals between the change of fomentations, the part may be *gently* rubbed, from the circumference towards the nipple, with salad oil, or, if procurable, with soap liniment; but the rubbing must be *gentle*, as abscess is often induced by strong friction, as sometimes employed by nurses to 'rub the milk away,' or to 'break the string of the nipple;' phrases which are meaningless, and not applicable to facts. Pressure by a thin towel or piece of diaper, with a hole for the nipple, fixed round the body over the opposite shoulder, is often very beneficial. But if this causes pain the breast should be well supported by a handkerchief passed *over* the shoulder and *under* the breast in the manner of a sling, so that the breast may not hang down with the full force of its own weight. The patient should also lie as much as possible, by which the breast is prevented from hanging down. A cushion between the arm and chest often affords relief. Castor-oil should be given to open the bowels, and cooling medicine, as citrate of magnesia (*vide* p. 15), may be taken to lessen feverishness. In India, when the breast is inflamed, 5 grains of quinine should be given every six

hours. If inflammation occurs towards the end of suckling the diet should be generous.

[If obtainable, use *belladonna liniment* in all cases. The liniment should be *gently* rubbed on the breast, especially for two or three inches round the nipple. If the breast is merely distended, and the milk cannot be satisfactorily drawn off, the *belladonna* liniment will tend to diminish the formation of milk. If the stage of distension is passed, and the breast has become tense, shining, hard, and acutely painful, showing the existence of inflammation, the application of belladonna liniment every two or three hours, during from one to two days, will often remove the inflammation and arrest impending abscess. *Belladonna liniment would be poisonous to an infant, so that the breast may not be sucked while this remedy is in use.*]

BREAST, ABSCESS OF THE.—If the inflammation as above described is not subdued, matter forms in the breast, constituting *abscess of the breast*. After feelings of feverishness, shooting pains, and shivering, the breast enlarges at one particular part with *throbbing* pain, the skin becomes red, and afterwards whitish-coloured, and prominent. If not pricked with a lancet, the surface becomes very prominent and pointed, and ultimately bursts, permitting the *pus* or matter to flow out. As soon as this prominence or pointing is perceived, the matter should be let out by lancing, the puncture being made large, and in a direction *from* the nipple towards the circumference, and *not* across the breast, by which an unsightly scar would result.¹ An early use of the lancet in abscess of the breast will probably prevent much suffering, which may arise from the burrowing of matter (unable to find an exit) in the substance of the breast. If a lancet is not at hand, it will be better to puncture with a sharp penknife than to risk the evil of matter burrowing. Afterwards a bread poultice, or a soft towel moist with warm water, should be applied until the discharge of matter ceases, when the wound should be plastered. If the abscess is small the child may be put to the

¹ For directions how to open an abscess, *vide* p. 44.

breast with advantage. If the abscess is large the breast should not be sucked, but the milk should be drawn off periodically. Sometimes, when abscess of the breast has been neglected, the whole organ is implicated, or even destroyed, by the burrowing of matter throughout its texture. Then canals or *sinuses* form, which require free incisions, often leading to a severe surgical operation requiring professional skill and chloroform.

Milk abscess is often associated with a poor condition of health. As soon, therefore, as matter has formed, the patient should have liberal diet, with a moderate allowance of wine or porter, and strengthening medicines, as Recipe 66; or if the patient was previously pale and debilitated, sulphate of iron (*vide* p. 24).

[If iron is required Recipe 70 will be preferable.]

BREAST, SORE NIPPLES OF THE.—Cracks about the nipples, occurring during suckling, not only cause great pain, but are frequently the precursors of inflammation and abscess of the breast. All nipples are liable to crack, especially if not washed and dried after nursing; but the dark-coloured nipple is less liable to become sore than the pink one. The nipple should never be left in the child's mouth after the process of suckling is completed, as it soddens the part, and renders it more liable to crack. It should also be recollected that sore nipples may arise from *aphthæ*, or sores of the child's mouth (*vide* p. 446), which, if present, should be treated as well as the mother's nipple. *When nipples are simply tender but not cracked*, a little sweet oil or glycerine is the best application, and care should be taken that the dress does not press upon and irritate the tender part. Some means by which the milk may be conveyed to the child without the mouth of the latter coming in contact with the nipple should also be adopted. The india-rubber teat, or cork nipple, may be used for this

purpose. After suckling, the parts should be bathed with brandy and water in equal proportions, or alum-water (Recipe 42) may be used, and a little salad oil should be afterwards applied. *When cracks exist*, it is a good plan for the mother to draw out the nipple by means of the old-fashioned feeding-bottle before giving it to the infant, the mother's nipple being put into the central opening and her mouth drawing the other one. Another method is the application to the nipple of the mouth of a wide-necked empty bottle that has been heated by hot water. The nipple, as the bottle cools, is pressed into the bottle and rendered prominent without pain. If the abrasion is small, collodion may be used to seal up the crack. *When there is a deep fissure or crack* in the nipple, it should be washed with alum-water *after* every time the child suckles, taking care to wash the nipple *before* the child next sucks. But the best means is the use of a well-made nipple-shield through which the child sucks. For prevention *vide Diseases of Pregnancy*, Irritation of the Breasts, p. 360.

BREAST, IRRITABLE.—An irritable breast may be caused by the influences exciting inflammation (*vide* p. 94); or from various maladies affecting the womb, or by profuse painful and irregular monthly periods, or by whites, when the breasts become sympathetically irritable and painful. Or sometimes the pain is purely neuralgic, and is thus recognised by its *periodical* character, and probably by accompanying neuralgia of other parts. The pain is of a *wearying aching* description, being more violent prior to the monthly periods, and most acute when of a neuralgic character. The pain often radiates to the back, neck, and *matens*. Sometimes the breast is very sensitive and the *towel* on cannot bear it to be touched. There is often a hard lump deep in some part of the breast, and this *ave* rise to a suspicion of *cancer*. This lump is best *on* the part is pressed sideways between the fingers

and thumb. When the breast is pressed gently against the chest the hardness is not felt at all, or very slightly; whereas cancers and tumours are felt in whichever way they are manipulated, and the swelling (of cancer especially) is harder, and directly under the skin, the pain being more acute and lancinating. Also, irritable breast is common in young women, and often occurs to girls about the period of the establishment of the monthly courses, and sometimes in boys about the age of puberty; whereas cancer usually happens to females of middle age. Warm poppy-head fomentations (Recipe 81) will generally relieve the pain and swelling. But the general health must be attended to, and if the monthly courses are irregular, the treatment for *Amenorrhœa* or *Dysmenorrhœa* must be employed (*vide* pp. 468, 472). If the pain is of a neuralgic, intermittent character, quinine, as Recipe 66, will be required.

BREAST, CANCER OF THE.—Cancer of the breast mostly occurs to females past middle life. The more usual form of cancer commences as a small hard swelling under the skin, at first painless, but in which attacks of *acute lancinating* pain are eventually experienced. It gradually spreads, involving the substance of the breast and drawing down the skin of the nipple. So long as the mass can be moved and the glands in the armpit are not swelled, there is hope of cure by excision with the knife. When it becomes an open sore the chances are less favourable. Although several remedies for cancer have recently been commended, it is believed that nothing but surgical operation will eradicate the disease, and even after operation it is liable to return, either in the breast or in some other part of the system. Women often imagine they have cancer in the breast, when the malady is not anything of the kind. Until middle life it is rare.

and even then it does not occur so often as is popularly imagined.

BREAST, OTHER DISEASES OF THE.—Other diseases which develop as tumours in the breast are principally: 1. **ADENOMA OR FIBROMA**, generally met with in women between the ages of twenty and thirty. The growth commences as a hard nodule. When small it is freely movable. The veins under the skin become enlarged, but there is little or no pain. The skin is movable over the tumour, and rarely ulcerates. 2. **CYSTS**. Cysts are composed of a bag or wall containing fluid. They are most common in women between twenty and forty years of age. A cyst commences as a small globular hard lump, which may attain a large size, affording to the fingers the sensation of a fluid moving from side to side. All such maladies require surgical operation.

The diagnosis of cancer or malignant tumour of the breast from other tumours is a matter of great importance for the mental peace of the patient. The distinctive features are therefore placed in contrast below.

OTHER TUMOURS	CANCER
1. Appear generally before thirty-five.	1. After thirty-five.
2. May appear shortly after puberty.	2. Never so.
3. Growth slow.	3. Often rapid.
4. No tendency to become adherent to the skin or subjacent parts.	4. Marked tendency to do so.
5. No retraction of the nipple.	5. Retraction common.
6. Severe pain exceptional, and rarely of a stabbing kind.	6. Pain a very common symptom, and of a severe darting kind.
7. Little tendency to ulcerate.	7. Great tendency to ulcerate.
8. No infection of the glands of the armpit.	8. Infection common.
9. Does not affect the general health.	9. Affects the general health.
10. Recurrence extremely rare.	10. Recurrence the rule.

BRIGHT'S DISEASE (*Degeneration of the Kidneys, or Albuminuria*).—Several forms of kidney disease are included under these names. One form originates from inflammation of the kidneys (*vide* p. 314). Another form originates from a gouty condition of system, or from the abuse of alcoholic drinks. A third form accompanies

consumption, or other exhausting diseases. Whatever form presents, certain changes in the structure of the kidneys occur, which lead to a number of different symptoms. The most prominent early sign is the occurrence in the urine of a substance called *albumen*. This is not visible, but may be rendered so by boiling a little urine in a test-tube, or in an iron or silver spoon, when, if albumen is present, the urine turns more or less white. If by the addition of a drop or two of *strong nitric acid* the urine does not become clear, it is certain proof that albumen is present. But the fact of albumen being found in the urine is *not* always demonstrative of Bright's disease. Albumen occurs in the urine of some persons as the result of certain articles of diet—cheese, pastry, and eggs being the principal offenders, although they do not appear otherwise to disagree. It also presents in the urine of some people whenever dyspeptic from any cause. It may also depend on defective action of the liver, causing the passage of irritating acid through the kidneys, which acid the liver, if in a healthy condition, decomposes. Albumen not unfrequently occurs after an attack of ague. In some persons it presents after any great muscular exertion. In all these cases there is no real disease of the kidneys. But if, in addition to albumen, casts of the tubes which secrete the urine (and which form part of the structure of the kidneys) are found in the urine, it is evidence of kidney disease. But to discover these casts the urine must be examined with a microscope. In addition to albumen in the urine, the early symptoms of Bright's disease are diminution in the amount of urine passed, having to rise several times in the night to make water, a dull uneasiness in the lower part of the back, indigestion, and debility without any evident cause. When such symptoms occur and albumen is also found permanently in the urine, there is grave cause for un-

easiness. But oftentimes Bright's disease comes on so gradually and imperceptibly, that it is only discovered by the condition of the urine. As the disease progresses it is further marked by increasing debility with headache, drowsiness, pallor, puffiness about the eyes, shortness of breath, frequent disposition to make water, especially at night, dyspeptic symptoms, and sometimes nausea, or even vomiting. At a later stage the heart usually becomes implicated, and dropsy almost always occurs (*vide* p. 186). There is also a great tendency in those suffering from Bright's disease to bronchial affections, headache, convulsions, epileptiform and apoplectic attacks, as mentioned under Uræmia (*vide* p. 55). The various forms of Bright's disease require high medical skill both in diagnosis and treatment, and it is only described here with the desire of guarding against the error often committed, of persons supposing comparatively trivial ailments to be the disease. If anyone is afraid he may have Bright's disease, he may test his urine in the manner previously indicated, and if he finds, notwithstanding leaving off cheese, pastry, eggs, and spirits, the urine turning white day after day, for ten or twelve days, he will do well to seek medical advice. In the meantime he should avoid brain work, he should treat any dyspeptic symptoms (*vide* p. 205) which may be present, he should use Recipes 1, 2, and 67, and he should take only very moderate exercise.

BRONCHITIS.—This is the term applied to inflammation of the lining membrane of the air-passages or tubes leading to the lungs. These tubes are described at p. 60, under Asthma. Bronchitis is generally caused by chill, and commences with symptoms of a common cold. There is first running at the nose, and a feeling of chilliness and aching pains in the limbs; the patient is thirsty and feverish, and there is languor, headache, furred tongue, loss of appetite, and restlessness. There is also a feeling

of soreness behind the breast-bone, and of constriction or tightness of the chest. At first there is a dry hacking cough, the breathing is oppressed and difficult, and very little phlegm is brought up. The fever is often considerable, and the pulse may rise to 120 or higher. In favourable cases, in three or four days the cough becomes looser, and the expectoration more abundant. The expectoration during the earlier period of the malady is frothy when first coughed up, but becoming glairy, like unboiled white of egg, when allowed to remain in the receptacle. After some days the expectoration becomes thicker, and of a greenish-yellow colour, and the feeling of soreness and constriction of the chest then passes away. Throughout the attack, wheezing sounds may be heard with the breathing, and a thrill may be felt when the hand is placed on the chest or back. These signs will partly disappear after phlegm has been coughed up, but occur again with reaccumulation of mucus in the air-passages. The sounds and thrill are due to the air passing through the viscid mucus which more or less fills the bronchial tubes. Exertion or exposure to cold air increases both the cough and difficulty of breathing. In favourable cases, the disease abates about the eighth day, the difficulty of breathing subsides, the expectoration is expelled with less difficulty, and the fever declines. In unfavourable cases the expression of countenance becomes anxious, the patient makes more painful efforts to breathe, the lips become purple, and the cheeks pale and livid; delirium may ensue, and the patient, unable to cough up the tenacious mucus, dies suffocated.

Bronchitis often attacks natives who are suffering from fever during the cold season, especially in the northern districts of India, and on the sea-coasts, which are exposed to great variations of temperature, consequent on the land and sea-breezes and the lulls between. This complication

frequently renders the fevers of natives very dangerous. But European adults are less liable to bronchitis in India.

Treatment.—Bronchitis may often be cut short at the onset by a warm bath, 8 or 10 grains of Dover's powder taken at night, with half-drachm doses of sweet spirits of nitrous ether in 2 ounces of water every three hours, and the encouragement of free perspiration in bed. A little prepared barley, boiled in half a pint of milk, to which is added half a wine-glassful of brandy or whisky, with nutmeg, lemon-juice, and sugar according to taste, will be found a very useful and agreeable potion, as it both allays thirst and induces perspiration. If the disease is not thus checked, the patient should be kept in bed, and be carefully guarded against cold, the temperature of the apartment being maintained day and night as *equable* as possible. A certain amount of moisture in the air is also advisable, and to effect this the steam from a kettle of water, boiled outside the room, may be allowed to escape into the room by an india-rubber tube attached to the spout. It is of no use keeping a kettle boiling on the fire (if there is one), as the steam passes up the chimney. Burning a charcoal 'sigree' or brazier in the room to boil the kettle is objectionable, as the heat destroys the effect of the moisture, and the fumes of the charcoal are injurious. Mustard poultices should be applied to the chest (*vide* Recipe 109), Dover's powder in 10-grain doses should be given at night, and Recipe 57 every four hours. Bread and milk, rice pudding, arrowroot, beef-tea, and jellies may be given. In unfavourable cases, when the symptoms are as described last, stimulants in the shape of wine or brandy will be required. Although the cough may be troublesome, and the patient may complain much of want of rest, no opiate other than the small proportion of such contained in the above prescriptions should be

given without medical advice, as composing or sleeping medicines may increase the danger, by preventing free expectorations.

In colder countries, and in old people, bronchitis often assumes a chronic form, when it is frequently termed 'winter cough.' People may have slight bronchial irritation during the cold season of Upper India, which passes off with the return of warmer weather. For this Recipe 56 will be beneficial; or if there is accompanying dyspepsia, Recipe 60 should be procured. But sometimes chronic bronchitis depends on a gouty condition of system, and if this is the case Recipe 52 is required.

BRONCHITIS OF CHILDREN.—The acute bronchitis of children is generally of graver importance than when the disease attacks the adult. In children the mischief is more apt to spread down the bronchial tubes, to the smallest branches, or even into the lungs; while in the adult the main branches are, as a rule, the seat of the disorder; and it is in proportion to this downward extension of the inflammation that the relative danger lies. For the more the smaller tubes are effected the less can the blood become properly aerated, and death may take place from suffocation. The disease begins with symptoms of an ordinary cold, and for some days perhaps nothing more serious is apprehended. But by degrees there is more fever and restlessness, while the commencing implication of the bronchial tubes is denoted by short dry cough. Sometimes, again, bronchitis commences with threatenings of croup. The patient may wake in the night with harsh *brassy* cough (as described under *Croup*, *vide* p. 154), but instead of croup resulting the malady passes into bronchitis. However the disease commences, with increase of fever the cough becomes more noisy, frequent and painful, and the breathing quick and wheezing. The breathing is performed chiefly by the muscles of the belly

instead of the chest, which may be seen or felt moving much more forcibly than in a state of health. The child feels as if the chest were stuffed, and wheezing breath may be both heard and felt on one or both sides when the ear or hand is placed on the chest. When the breathing is very difficult, and particularly during the paroxysms of coughing, the veins of the forehead and neck stand prominently out, and the face is flushed. The fever and cough are generally worse at night, and the child is therefore then more irritable and restless. But it will often sleep for several hours, until re-accumulation of phlegm wakens the patient, and causes a paroxysm of suffocative cough. The expectoration, if coughed up, is white and glairy. But often the phlegm secreted by the inflamed bronchial tubes is only coughed into the mouth, when it is swallowed by the child, who cannot understand the desirability of spitting the phlegm out. Often the fits of coughing cause vomiting, which sometimes much relieves the child, by clearing the throat and entrance to the wind-pipe, and to some extent (from the pressure exerted by the act of vomiting) the bronchial tubes also of accumulated mucus, and thus allowing easier respiration. Although the skin is feverish and warm, it remains moist from perspiration. The mouth and tongue, although warm, are also moist. There is no appetite, but always thirst. If the disease grows worse, the paroxysms of cough become more frequent, until the child has no strength left to cough. Then the face becomes pale, while the lips grow livid and parted, the nostrils dilate with each inspiration, and the breathing is more hurried and difficult. Convulsions sometimes precede a fatal termination, but generally death takes place without much suffering, the child passing gradually into an unconscious state. Favourable symptoms are, lowering of the pulse, diminution of the heat of the skin, less difficulty of breathing, cessation

tion of wheezing, lengthened periods of sound sleep, and return of appetite.

The *cause* of bronchitis in children is usually exposure to cold, and it is more common when north or north-east winds are prevalent. Bronchitis of a mild character sometimes occurs as a result of nervous irritation caused by teething, and therefore the condition of the gums should be inquired into, and if necessary they should be lanced. Children who have recently suffered from whooping-cough or measles are also very liable to bronchitis. Also those who 'drivel' much, if care is not taken to keep their chest dry.

For the distinction between bronchitis and inflammation of the lungs, *vide* the latter disease (p. 329.)

Treatment.—When the approach of the malady is feared, the child should be kept in the house, and the temperature of the apartment should be maintained as *equable as possible* both by day and night. The great importance of an *equable* temperature, whatever that temperature may be, cannot be too much insisted upon. In a cold climate the proper temperature of the sick-chamber would be 65° Fahr., but in India it must generally be much higher. But however high it may be, it should be maintained *equable*, and the patient should be guarded against draughts and cold. It is also advisable to moisten the atmosphere of the room in the manner mentioned at p. 104. Recipe 57 should be given, in doses proportionate to the age of the child. If the child is teething the gums should be examined, and lanced if necessary. A warm bath may also be used at the onset, to encourage the action of the skin. If the disease is not thus checked, the child should be put to bed, and a large hot linseed-meal poultice should be applied to the chest. This application may be renewed when it becomes cool, and the same process may be repeated for twenty-four or thirty-six hours. Once daily a little mustard may be mixed with the linseed-meal; but irritating applications,

as blisters, cannot safely be used for children. If mustard is used with the linseed-meal, it should be in the proportion of one-tenth part of mustard only; the required effect not being blistering, but simply a degree of warmth. If linseed-meal poultices are used to the chest, great care must be taken that they are not allowed to grow too cold before removal; also, that moisture does not trickle from the poultice into the bed, and that the child is not chilled during the change of applications. A linseed-meal poultice should retain its warmth for three hours, and if made of the proper consistence no moisture will ooze from it. Unless the essentials as above named can be secured, it will be better *not* to use the linseed-meal poultice, but to cover the child's breast with several layers of cotton-wool. The bowels, if confined, should be acted upon by senna or castor oil. If there is much wheezing or stuffing of the chest, an emetic of ipecacuanha wine (*vide* p. 15) should be given once or (if it does good) twice daily, which will often relieve much discomfort. The expectorant mixture (Recipe 57) should be continued during the whole illness. At the same time the strength of the patient must be carefully supported. Milk should be given freely, and beef-tea or mutton broth *offered* alternately. If there is great weakness, a small quantity of brandy or port wine will be necessary. Solid food is not to be given; neither will the child care for it, so long as there is fever. Throughout the illness, the patient should lie with the head rather high, and be encouraged to cough frequently; not being allowed to sleep too long, lest dangerous accumulation should occur. When all severe symptoms have subsided, the patient may return gradually to his usual diet. For some time afterwards care should be taken that the patient is not exposed to cold, as he will remain very susceptible to any influence affecting the chest.

[During convalescence iron and quinine (Recipe 70) will be advisable.]

BUBO.—The term bubo is applied to an enlarged and inflamed condition of the glands in the groin. This is often the result of some form of venereal disease (*vide* p. 457). But the glands of the groin may swell and inflame from other causes, especially from the irritation of a sore on the foot or leg, or from a strain of the parts, experienced, perhaps, when riding a restive horse. However bubo arises, the symptoms are, a greater or less degree of heat and swelling of the affected part, with severe throbbing pain, aggravated by pressure or by attempts to walk. Often a bubo results in the formation of matter; but sometimes, after considerable pain and swelling, it gradually subsides. Rest in the horizontal posture is essential, and cold evaporating lotions (*vide Appendix*, No. 83) should be assiduously applied, which may perhaps prevent the formation of matter. If the swelling and tenderness increase, and if the pain becomes of a *throbbing* character, warm applications should be gradually substituted (*vide Appendix, Cooling Applications*), and the case should be treated as an abscess (*vide* p. 41).

[For keeping dressings on the groin the figure of \times bandage should be employed. The end of a bandage (*vide* p. 493) should be laid on the front of the thigh of the affected side, and the roller should then be carried round the body, and fixed by a pin where it meets the end. Then it should be carried round the thigh, passing first outside and then inwards, between the legs, across the groin, and so round the body again. If both groins are affected, a double figure of \times bandage may be used.]

BUNION.—This term is applied to a swelling generally appearing over the joint of the great toe. It principally arises from irritation of the part from the pressure of a tight, ill-fitting shoe, and is in the first instance an effort of nature to afford protection to the part pressed upon. It consists in the formation of a little bag or sac, containing watery fluid, which acts as a pad against pressure. But the pressure soon inflames this bag itself, so that

bunions, even when recently formed, are often tender and inflamed, requiring rest and fomentations. When old, the swelling becomes hard, with occasional periods of tenderness. Removal of all pressure is the only certain means of relief. This should be effected by cutting the boot-leather away, when plaster spread on soft leather may be applied over the part as a protection. If a bunion suppurates or 'gathers,' which it sometimes does from irritation and neglect, it must be poulticed and treated as an ordinary abscess (*vide* p. 41).

BURNING OF THE FEET.—This is not a very common, although often a very troublesome affection. It may simply be an uneasy sensation of warmth in the soles of the feet; or, in any degree, to the most painful sensation of burning, preventing sleep, and thus destroying the general health. There are usually distinct periods of increase and diminution of the burning pain. In some instances the part affected is moist, in others quite dry. Emaciation and debility accompany the progress of the malady. It more often attacks natives than Europeans. It sometimes occurs unconnected with any other malady; at other times it appears as a sequela of fever, bowel complaint, rheumatism, or beri-beri. Its cause is unknown, some considering it due to malarious influences, others regarding it as rheumatism.

Treatment.—As a local application salt, oil of sesamum, and lime-juice in equal proportions. Bathing the feet in strong brine is also efficacious. Chloral may be given at night to relieve pain and procure sleep. Tonics, as quinine, iron, or arsenic, should also be taken. Change of climate is, however, the only certain remedy.

CANCER.—Cancer may occur in any part of the body, but is more common in the breasts of women, the lips, the skin, the stomach, the testicle, the tongue, and the womb. The cause of the cancer is not known, but it is believed to

be at first a local malady (thought by some to be due to a microbe), and which ultimately leads to a vitiated condition of the blood. It is often hereditary in families.

Cancer of the Breast.—*Vide* p. 99.

Cancer of the Lip.—Commences as a slight sore or scab which will not heal. But this may also be syphilitic, and the diagnosis requires medical advice.

Cancer of the Skin.—Usually commences as a small, hard, and nearly insensible swelling. It may remain in this state for weeks or months, or even longer, but at length it passes into a more active condition. It is then distinguished by shooting or lancinating pains, at first only felt at intervals; by discoloration of the skin, which presents to the touch a knotty uneven surface; by its persistent growth, which cannot be restrained; by its spreading to neighbouring parts; by the adjacent glands becoming swollen, tender, and painful; and by the tendency to form an open and increasing sore.

Cancer of the Stomach.—When cancer affects the stomach it causes great pain, vomiting of bloody mucus, emaciation of the body, and a hard tumour, which may be usually felt on examination of the left side below the ribs.

Cancer of the Testicle.—Commences as a hard swelling with sense of weight and dragging, and eventually acute lancinating pain, and enlargement of the glands of the groin. The testicle is also subject to a soft variety of cancer.

Cancer of the Tongue.—Commences as a small sore or ulcer, generally near the side and behind the middle of the tongue, which will not heal, eventually becoming the seat of lancinating pain. But an obstinate sore on the tongue may be syphilitic.

Cancer of the Womb.—Causes much pain, and is accompanied by a badly-smelling discharge, with great weak-

ness and emaciation. It generally occurs after middle life.

Treatment.—There is no cure for cancer except removal by the knife. Cancer is only mentioned in this Manual because the brief descriptions may tend to prevent an erroneous impression of cancer being present when the affection is something less important.

CANCERUM ORIS.—This is the name given to a very destructive ulcer which attacks the cheeks, lips, or gums, usually of children. It is attributable to debility after small-pox, scarlet-fever, or other exhausting febrile diseases, especially when combined with improper and deficient food, neglect, and living under unsanitary conditions. Or it may arise under such circumstances of life without prior fever. The disease commences as a dark, hard swelling of the cheek, or lips, which soon mortify and slough away. In this manner portions of the cheek, lips, gums, or jaw-bone may be destroyed. There is profuse discharge of both saliva and badly-smelling fluid. It may terminate fatally from exhaustion, or from bleeding from some artery opened during the sloughing process; or the patient may gradually recover, with the loss of some portion of the cheek, lips, or jaw-bone.—*The treatment* consists in keeping the affected parts very clean by frequent washing with alum solution (Recipe 42); in giving tonic medicines (Recipe 66); and in liberal diet, as eggs, beef-tea, wine, milk, or chicken-broth.

[A better application than alum is carbolic acid solution (Recipe 119). If possible, the advice of a medical man should be procured, who would probably endeavour to stay the progress of the disease by the application of strong nitric acid, under chloroform.]

An allied malady, called noma, sometimes attacks the private parts of female children, who have been subjected to the predisposing causes described above. The disease

when in this part presents very similar progress, and requires a similar treatment.

CARBUNCLE.—A carbuncle is an exaggerated boil (*vide Boils*, p. 75), most frequently situated where the tissues underlying the skin are of a dense fibrous character, as the nape of the neck, the back, or buttocks. Carbuncles are usually seen in debilitated people over forty-five years of age, especially if suffering from kidney disease or diabetes. They result from an impure, vitiated, and debilitated condition of the blood, but their appearance at any particular part of the body may be determined by an accidental injury. One variety, known as *anthrax*, arises from contamination from diseased animals, by which a microscopical germ, the *bacillus anthracis*, is conveyed to man. Carbuncles vary in size, sometimes being as large as an orange. They are very hard, dreadfully painful, and cause the skin above to become of a dusky red colour, which gradually fades off into the surrounding skin without any defined border. As the carbuncle forms matter is discharged from several small openings. The progress of the disease is slow, but after a time, generally two or three weeks, the whole of the affected skin and tissues underneath slough away, leaving a deep, irregular cavity, which extends underneath the neighbouring skin. Carbuncles are commonly attended with much constitutional disturbance, such as fever, perspirations, and debility. The strength must be kept up by nourishing diet, port wine, quinine, and iron. The local treatment consists of hot fomentations, poultices, and at the proper period free incision, in order to let the *core* or decayed tissue and matter escape. When the discharge ceases, the part may be dressed with simple dressing or plaster, as an ordinary sore.

CATARRH.—Catarrh presents under two forms, viz. a *common cold* and *influenza* (*vide* p. 309). The symptoms

of a common cold are lassitude, chilliness, or shivering, a feeling like cold water running down the back, pains in the back and limbs, often sore-throat, sneezing, and a sense of heaviness in the head and eyes, the latter being weak and watery. There is also headache, especially of the forehead, stoppage of the nose, alternating with discharge, while the respiration is impeded from inability to breathe through the nose, the person is feverish, and the taste is perverted. Frequently an eruption of herpes (*vide* p. 395) appears on the lips. At the end of three days the malady begins to subside. The symptoms of a severe cold in the head are very similar to those of the commencement of influenza. But cold in the head is a local complaint, arising from inflammation of the lining membrane of the nose, the result of chill. The satisfaction often expressed by mothers at the running noses of their children is well founded, as it comparatively rarely happens that a catarrh after profuse running at the nose passes into dangerous ailments. This fact, long observed, appears to have given rise to the custom of saluting after sneezing.

Treatment.—To escape colds, persons should as much as possible avoid sudden transitions of temperature. When over-heated they should not cool themselves too quickly by throwing off clothing, or suddenly sitting in comparatively cold situations, but cease exercise gradually, and avoid currents of cold air, although grateful to the feelings. Colds may sometimes be taken by passing from a cold atmosphere into a heated one, but such transition is not so apt to occur in India as in colder climates. The remedy for an ordinary cold may be the milk, barley, and spirit mixture, mentioned at p. 104, for slight bronchitis; or, if this cannot be obtained, a stiff glass of spirits and water, taken at night, with the object of inducing sleep and perspiration. For more severe colds a hot bath, or the feet

in hot mustard and water, 10 grains of Dover's powder (compoundipecacuanha powder) at night, and half a drachm of sweet spirits of nitre in an ounce of water three or four times a day. If the cold be attended with cough or bronchial irritation, Recipe 57 should be taken. Spirits of camphor (*vide* p. 24) taken every two hours at the very commencement of a catarrh will sometimes arrest it, and is most useful when there is persistent shivering. One drachm of camphor, coarsely powdered and placed in a jug half filled with boiling water, may be used as follows. Make a paper cone sufficiently large for the small end to fit over the jug, and the large end to fit over the mouth and nostrils, and inhale the camphorated fumes three or four times a day. Refraining altogether, or as much as possible, from any kind of liquid for twenty-four hours often affords great relief.

[A mixture, composed of tincture of aconite 1 drachm, water 8 ounces, taken in *teaspoonful* doses every hour, or two hours, according to the severity of the symptoms, is very beneficial, if taken at the commencement of a cold. The patient should go to bed and drink freely of water. The treatment may be continued for six or eight hours, when, the skin becoming moist, the symptoms disappear. If the patient cannot lay up, the following prescription, used frequently *as a snuff*, will afford much relief. Hydrochlorate of morphia 2 grains; acacia powder 2 drachms; subnitrate of bismuth 6 drachms; to be well mixed. To be labelled, 'Poison, not for internal use.' Or carbolic acid and strong liquid of ammonia, of each 5 drachms, rectified spirits of wine 2 ounces. Keep in a stoppered dark glass bottle. When a cold is commencing 10 or 15 drops should be placed on three or four folds of blotting-paper. The eyes should be closed and the patient should inhale as long as any smell is perceptible. To be repeated every two hours.]

Colds, although generally regarded as trivial ailments, should not be neglected, as other intractable diseases may be excited by a succession of colds. Delicate persons who are subject to colds should strengthen their system by regimen and judicious exposure to the external air. Strong

persons subject to colds may prevent attacks by care, exercise, free use of the bath, and the flesh-brush.

CHAPS.—Chaps and roughness of the skin of the hands chiefly occur from the cold of Northern India, which is sometimes intense, particularly during the nights of the winter season. When the skin cracks over the knuckles or elsewhere, the part is popularly said to be ‘chapped.’ Protection from the cold winds should be secured by gloves, and cold cream or glycerine may be applied.

CHILBLAINS.—Chilblains are seldom seen in India except in the cold weather of the northern districts, when they not unfrequently occur to children. Chilblain is the term commonly applied to inflammation of the skin over the toes, or on some portion of the feet, but it may occur on the hands or ears. Chilblains are caused by sudden alternations of temperature, such as warming the feet and hands when cold and damp by the fire. The skin becomes red in patches, slightly swollen, and there is much irritation and itching, especially in the evening. Sometimes, owing generally to scratching, the parts blister, or even become a sore. Chilblains are most common in delicate women and weakly children, or in persons whose circulation is very languid.

Treatment.—On the approach of the cold weather, those liable to chilblains should harden the skin of the feet by rubbing with alum solution (Recipe 42) or with strong brine. The socks should be thick, and the boots roomy, well-fitting, and furnished with strong soles. Sudden exposure to cold and wet should be avoided, and the temptation of bringing a benumbed hand or foot close to the fire should be overcome. When there is a red blush on the skin, and the part is painful, it may be gently rubbed night and morning with brandy and salad oil mixed in equal proportions, or with soap liniment if available. If there are blisters, care must be taken not to break them, and

the liniment must be applied lightly with a feather; if ulcers or sores form, poultices will be required, to be followed by simple dressing (Recipe 86). When persons suffer badly from chilblains, tonics and generous diet will generally be indicated; also a moderate degree of exercise sufficient to circulate the blood.

[For chilblains in the unbroken state, either spirits of wine or spirits of camphor (*vide* p. 24) may be used with great advantage, instead of the brine or alum solution mentioned above.]

CHICKEN-POX.—Chicken-pox is a contagious eruptive fever of a mild nature, generally occurring in children. It is by some considered to be *modified small-pox* (*vide* p. 408). The period after exposure to infection and appearance of the disease is ordinarily six days. During twenty-four hours there is slight fever, and often catarrh, then an eruption of red pimples appears first on the back, then on the face and other parts of the body, accompanied by slight itching. There may be only one crop, or there may be a succession of crops of such pimples daily, accompanied by an increase of fever, which declines after the spots appear. On the third day the pimples contain a clear fluid, which has led to the term ‘Crystalline Pock.’ The vesicles break on the fourth day, disappearing about the sixth day, when the thin scabs fall off, without leaving any mark or scar. The vesicles are not ‘pitted’ or depressed as in small-pox; neither does matter form in them as in the latter malady, and the initiatory and accompanying fever is always much slighter. A gentle aperient, as citrate of magnesia, and care in avoiding catching cold, form all the treatment desirable in most cases. There is no danger of infection three weeks after the first appearance of the eruption.

CHOLERA.—Cholera commences in two ways: 1st, *suddenly*; 2ndly, *after ‘malaise’ and painless diarrhœa,*

which may extend from one to ten days, or longer. The choleraic seizure often occurs during the night, or in the early morning, when the atmospheric temperature is coldest, and the vitality of the human system least. There is frequently from the very first great depression and debility. Spasmodic griping in the bowels is first felt, followed by frequent purging, and vomiting, first of the contents of the stomach, then of watery material. These evacuations, which are at first coloured, quickly change to an almost odourless *white-coloured* fluid, resembling water in which rice has been boiled. These 'rice-water' stools may amount to fifteen or twenty in the course of a few hours; and at first they are discharged with great force, and are followed by a sense of relief, although by a peculiar feeling of exhaustion at the pit of the stomach. Vomiting may be equally frequent, and the ease with which the cholera-stricken vomit is remarkable, the rice-water fluid often passing up with scarcely any effort. At the same time severe cramps, commencing in the fingers and toes, occasionally alternating with tingling, rapidly extend to the calves, thighs, and muscles over the bowels. Urine at first is scanty and high-coloured, and ultimately *none* is passed. There is also a burning sensation and a feeling of tightness at the pit of the stomach, which is tender to pressure. The tongue is white and tremulous, and there is a bitter taste in the mouth. Little or no saliva being secreted, the mouth is dry, there is great thirst, and an urgent desire for cool drinks. The pulse is feeble, but more frequent than natural, probably rising to 96°. There is a cool skin and no fever, but the patient often complains of heat and oppression, and prefers to lie uncovered. Noises in the ears may also be complained of. The patient is very restless, and constantly tossing about the bed. Lastly, a rapidly-increasing exhaustion is evident. The patient is now on the verge of *collapse*, or sinking.

Should this condition succeed, the pulse becomes quicker but hardly perceptible, the discharges cease, and so often do the cramps. The skin is covered with cold perspiration, has a sickly smell, and a bluish tinge. The nails and lips especially assume this unnatural appearance. The whole body seems shrunken and withered, the genital organs are shrivelled, and the skin of the fingers is wrinkled like that of a washerwoman. The voice is husky and faint, the tongue is pointed, and both it and the breath are cold. The intelligence is ordinarily clear, but there is apathy as to the result. The countenance assumes the peculiar aspect of the cholera death; the eyes are shrunken and glassy, but the pupils remain of the natural size; the nose is sharpened, the cheeks are hollow, and the jaw falls. The temperature, if tested by the thermometer, is found to have fallen, the pulse becomes imperceptible, there is hiccough, stools may be passed unconsciously, while the whole body becomes bluish-grey. Often two or three hours before death some return of heat in the scalp, forehead, or over the chest may be present. This is an unfavourable sign, being due to a relaxation of minute blood-vessels, caused by the approach of death.

Favourable symptoms are the gradual cessation of vomiting and purging, the skin becoming warmer and the pulse fuller, the voice regaining power, urine being voided, colour appearing in the stools, the burning pain in the stomach ceasing, and the patient falling asleep. Even in apparently hopeless cases recovery may take place. So long as the patient has strength to vomit the case is not hopeless. But the immediate danger is not over till urine is passed, and the average time of passing urine in favourable cases is 72 hours after seizure. The duration of the disease may be from several hours to several days, and much longer when secondary results occur (*vide* p. 125).

In some epidemics of cholera the usual cramps have been absent, or much less felt than in the ordinary type of the disease. But in other cases cramps and twitchings have been noted as the principal symptoms. In most great outbreaks persons die suddenly from collapse, without distinctive symptoms—often without vomiting and purging, or after one or two sudden loose stools. Vomiting of worms has often been noticed, both during and after an attack. Sometimes cholera commences with shivering, as an attack of ague. In females there may be a bloody discharge from the privates, even although the monthly ‘courses’ are not present. The greater or less lividity of the countenance has given rise to such appellations as ‘blue’ and ‘black’ cholera. After death a remarkable contraction of the muscles of the limbs sometimes occurs, which has led to stories of persons being removed to the dead-house while yet alive. These contractions are due to *post-mortem* relaxation of blood-vessels, which, as before remarked, also causes the increase of heat noticed previously to, and sometimes after, death. Lastly, more persons always die at the commencement or the middle of an epidemic, in proportion to the number attacked, than towards the termination of an epidemic.

Causes.—The precise cause of cholera is not known, but it is generally admitted to be a poison, which may be transmitted from adjacent places through the air; which may be conveyed from place to place by human beings, or by other agencies; and which may contaminate drinking-water or food, and may thus be taken into the system. A peculiar *microbe* has been found in the intestines and discharges of cholera patients; but there is not sufficient evidence to show whether this is the cause of the disease. There is, however, evidence tending to prove that the cholera evacuations constitute the principal, if not the only, channel of contagion; and that the great cause of cholera is the contamination of water used for drinking purposes with the dejections of persons suffering from the complaint. There is reason to believe that the contagious principle becomes rapidly multiplied in water, especially if exposed to the heat of the sun. Milk, adulterated with contaminated water, may, it is believed, become a medium of the dissemination of cholera. Or the poison, protected

in the clothing or in the soil, may dry, remaining vital in the same way as germs of various fungi are known to remain vital, until brought into activity by favourable circumstances of air, heat, and moisture, as may occur when the dried germs are swallowed or inhaled. The cholera poison has been supposed to have originated in Eastern tropical countries, where, especially in the Delta of Bengal, it is periodically reproduced, spreading thence to an indefinite extent. But there is at least equal reason for the statement that cholera may develop in any country, and that it is not always conveyed from India. Be this, however, as it may, and in whatever manner the poison is produced, experience has demonstrated that whatever tends to lower the vital powers will *predispose* to the disease. Such agencies, for instance, as the depression of the nervous system, following intoxication; long and fatiguing marches, and the exhaustion consequent thereon; sleeping in overcrowded barracks or other crowded apartments, chill from early-morning change of temperature, damp, filth, destitution, drought, famine, and fear of the disease. In most epidemics it is found that the disease is more fatal in those localities notorious for their unsanitary conditions—particularly as regards defective conservancy—and amongst those classes who are rendered feeble and debilitated from want or destitution. Thus three factors are required—the poison germ; the introduction of the germ into the system; and predisposition of the recipient. Therefore, cholera is not contagious in the usual meaning of the term; that is, it is not contracted directly from another person, as small-pox is.

ris.—There are symptoms arising from other causes which in the absence of medical aid may be mistaken for cholera. These causes principally diarrhoea, arsenic poisoning, impure water, stale fruit, fish, fungi mistaken for mushrooms, the fruit of the *luffa* impure milk and cheese, bad tinned provisions, and colic.

may be attended with cramps, and all the early symptoms of cholera excepting rice-water stools and stoppage of urine, which are absent in diarrhoea. But cholera often commences as diarrhoea and gradually develops into cholera. It is often impossible to define with exactness whether the attack should be called cholera or diarrhoea. Moreover, when cholera prevails, diarrhoea, evidently due to similar influences, is also present. The term *choleraic diarrhoea* has been unadvisedly expunged from the official nomenclature of disease, but there is no other term which is applicable to many cases. *Arsenic poisoning* is characterised by vomiting and purging (*vide* p. 586), but there is not ordinarily stoppage of urine, while the stools are not of the rice-water description, but mucus streaked with blood, as in dysentery. *Impure water*, especially brackish water containing mineral water, as so frequently met with in Western India, may excite griping, purging, and vomiting, but the cholera characteristics of rice-water stools and stoppage of urine are absent. Similar remarks apply to the symptoms caused by *stale fruit*. But vomiting, purging, and suppression of urine have been known to follow eating *poisonous fungi*, although no rice-water stools. *Stale fish*, especially *oysters*, particularly if taken from the roots of mangrove trees, or if a shell has opened from some injury and decomposition commenced, sometimes excite all the symptoms of cholera. It should be recollected that a fish which is wholesome when absolutely fresh may become otherwise if kept only a few hours in a moist damp atmosphere, from the formation of a *post-mortem* poison, or *ptomaine*. The fruit or nut of a creeping plant, the *luffa echinata* (native name *deodagri*), is also known to excite symptoms much resembling cholera, but no rice-water stools. *Impure milk*, or milk in which some decomposition has taken place, may, if taken copiously, produce all the symptoms of cholera, for the milk, passing through the intestines more or less unchanged, gives rise to white fluid stools. *Decomposed cheese* and *bad tinned provisions* may also produce choleraic symptoms. The symptoms of *colic* are detailed at p. 131, and a comparison of them with those of cholera will show there is little resemblance, there being no rice-water stools and no suppression of urine, while the pain is of a different character. Yet colic has not unfrequently been mistaken by sufferers and friends for cholera. When a case resembling cholera occurs, especially in the absence of an epidemic, it will be well to inquire into the possibility of these causes of ailment.

Treatment.—No certain cure has been discovered. Yet many lives are saved by careful nursing, and by assisting nature's efforts towards reaction by the judicious administration of remedies, and by plenty of fresh air. It is in the premonitory stage of diarrhoea that most good may

be done. When cholera prevails the slightest approach to diarrhœa should be at once attended to, otherwise it will probably run on into cholera; and all saline purgatives should be avoided.

Immediately on the first symptoms of diarrhœa the patient should take 30 drops of chlorodyne, with half a wine-glass of brandy in a similar quantity of water, repeating the dose every two hours if necessary. Or, if sickness accompanies the diarrhœa, he should take Recipe 38 hourly. If the above-mentioned medicines are not at hand, 20 drops of spirits of camphor (*vide* p. 24) every half-hour. If purging continues, after two doses of chlorodyne; or four doses of Recipe 38; or eight doses of spirits of camphor; or after four hours have elapsed, ten grains of Dover's powder (*vide* p. 12) should be given, and repeated after three hours.

To induce the flow of urine, 1 drachm of sweet spirits of nitre, in 2 ounces of water, should be given every three hours, but not at the same time with the Dover's powder. If there is much nausea or vomiting, a mustard poultice should be applied over the pit of the stomach. The patient should be kept in the recumbent posture as quiet as possible, the bed should be protected by a water-proof sheet, and until purging has stopped the diet should consist of tea, arrowroot, or sago, mutton or chicken broth, or Liebig's raw-meat soup (*vide Addendum*), with a little good port wine. But often the patient will not take food, or if he does it is vomited. In such cases, only tea-spoonfuls should be given at half-hour intervals. The thirst may be quenched by plain cold or iced water, or soda-water, and ice, if available, may be kept constantly in the mouth. Filling the stomach with water renders vomiting easy in those cases where it may be the reverse. So long as urine is passed, the case should not be regarded as hopeless, and with the view of encouraging

this secretion mustard poultices may be applied over the loins. This measure should be always adopted when cessation of the passage of urine is an early and marked symptom. Cramps and colds are best relieved by friction with the hand, by the application of hot bran bags or of cloths saturated with warm turpentine, or by mustard poultices.

[If obtainable, use Recipe 39 instead of 38 every two hours; also give Recipe 45 every alternate hour, both for four doses.]

This treatment, if commenced early, will often prove successful; but if purging and vomiting continue, the patient becomes as described in the latter stage of the disease, falling into a state of *collapse*. The period for any medicine has now passed. In collapse it is useless giving medicines, as the stomach cannot absorb them. They may accumulate, and become the cause of much mischief by aggravating reactionary fever. *The great desideratum in collapse is to keep up animal heat in every way which will not fatigue the patient.* But while the patient is kept warm, the freest ventilation must be secured. Above all, he must be kept quiet, and *not allowed to assume the erect posture*. If the breathing is difficult, a mustard poultice (Recipe 109) may be applied to the chest. The limbs, especially the legs and feet, should be assiduously rubbed with the hands. Thirst may be checked by a table-spoonful of brandy, or three or four of champagne *in a tumbler of water*. No other stimulants should be given, but broth or raw-meat soup (*vide Addendum*) may be *offered* frequently, but should not be pressed on the patient. Raw-meat soup, in very small quantities, as a tea-spoonful every ten minutes, will often be retained where everything else is vomited, as it requires little digestion.

A cholera patient should be isolated as much as possible, and no one except the attendants actually necessary

should be allowed in the apartment. The rules in the *Appendix* regarding the disinfection and disposal of all discharges, the disinfection of the hands of attendants, and of utensils, towels, &c. used, *should be rigidly carried out* during the illness; and afterwards those relating to the disinfection of the bedding, clothing, and rooms (*vide Appendix*, No. 121 to 130).

Great care should be exercised with regard to diet during convalescence. Broths and jellies, farinaceous puddings, sago and arrowroot may be given; but *no solids* whatever, until the stools are of a natural colour, the urine is secreted freely, and all other symptoms have vanished.

SECONDARY RESULTS OF CHOLERA.—When *reaction* or recovery from the collapsed state has commenced, little treatment beyond nourishing diet cautiously given is required in ordinary cases. It sometimes happens, however, and more especially with Europeans, or when much stimulants have been given, that *reactionary fever* succeeds recovery from cholera. This may be mild, terminating in a few hours with an eruption of roseola (*vide* p. 387) or nettlerash (*vide* p. 387). Or the *reactionary fever* may be more severe. For the first few hours after the feverishness commences the tongue is white, but it quickly becomes brown and dry, while black particles form on the teeth; the eyes become red, the cheeks flushed, the pulse rapid, and the surface of the body hot. The patient now often grows delirious, and ultimately becomes insensible, as if suffering from the last stage of typhoid fever (*vide* p. 242). This usually lasts from four to eight days, when the symptoms gradually yield or death ensues.

Secondly, a state resembling apoplexy may result, with or without any prior fever, and attended with a second stoppage of urine. This condition is caused by the

presence in the blood of material which should be passed off in the urine and bile. (*Vide Uræmia*, p. 55.)

Thirdly, persons who have previously suffered from dyspepsia are liable to inveterate hiccough after cholera, rendering them unable to take any nourishment, depriving them of rest, and inducing a very exhausted condition.

Treatment.—In the stage of reaction the heat of the skin may be moderated by cold sponging, and the secretion of urine, if not plentiful, may be promoted by a mustard poultice over the loins, or by dry cupping (*vide Appendix*, No. 115), and by sweet spirits of nitre (*vide* p. 13). If there is vomiting, as most frequently happens to patients of intemperate habits, small doses of citrate of magnesia should be given; if sickness prevents food being retained, and the bowels are *not* still loose, digested enemas (*vide Appendix*), or injections of Liebig's raw-meat soup (*vide Addendum*), should be given every four hours. When the tongue becomes brown and dry, the pulse weaker, although not slower, and if delirium occurs, a table-spoonful of port wine should be given every hour. Iced water may be given *ad libitum* according to the patient's desire. Supporting the strength by strong broths and soups, or milk, given frequently but in very small quantities, as a tea-spoonful, or, if so much can be borne, a table-spoonful at a time, is more important in this peculiar condition occurring after cholera, than purely medical treatment.

[When the tongue becomes dry and brown the following mixture should be given: carbonate of ammonia, 2 drachms; sulphuric ether, 4 drachms; spirits of nitrous ether, 6 drachms; camphor water, 12 ounces; 2 table-spoonfuls every three hours.]

When insensibility or a condition resembling apoplexy occurs, the hands and feet should be kept warm, the head cool, and mustard poultices should be again applied over

the kidneys and liver. If the person is able to swallow, Liebig's raw-meat soup should be given frequently in small quantities, but no stimulants.

When hiccough is a troublesome result, milk, with one-third lime-water (Recipe 25), will probably be best retained, and otherwise the hiccough should be treated as mentioned under Hiccough (*vide* p. 299).

[If the means mentioned above do not succeed, two or three drops of chloroform in a wineglass of water may be tried for either vomiting or hiccough. Milk treated by Fairchild's peptonising powders (if obtainable) should be substituted for milk and lime-water.]

CHOLERA IN INFANTS OR CHILDREN presents the same symptoms as when occurring to older persons.

Treatment.—Chlorodyne may be given, in doses corresponding with the age of the child (*vide* p. 12), every two hours for three doses. Equal parts of milk and lime-water (Recipe 25) may be given as a drink, which will tend to moderate the irritability of the stomach and to stop the purging. If no improvement, the pulse being more feeble and exhaustion greater, Recipe 38 may be given in doses according to age; and a little port wine may be used. In some cases very strong infusion of green tea, given in teaspoonful doses with six or eight drops of aromatic spirits of ammonia, has proved of great benefit. The tea often acts energetically on the state of drowsiness, and causes the little patients to revive rapidly, while the ammonia not only stimulates but also acts as an antacid. In all cases, at an early stage, a mustard poultice guarded by muslin (Recipe 109) should be applied over the bowels, while the extremities should be frequently rubbed with brandy and salad oil in equal proportions, or with soap liniment if obtainable. As food, raw-meat soup (*vide* Addendum) is best, and may be offered in small quantities throughout the illness. If not available, good meat broth.

CHOLERA, PREVENTION OF.—Many preventive measures may be comprised in one word, *CLEANLINESS*; and especially as regards the matter of *conservancy*. During and after cholera the rules for disinfection (*vide Appendix*), especially of the discharges, and of rooms, should be vigorously pursued. On the *approach* of cholera, increased sanitary vigilance in the vicinity should be enforced; but *after* the disease has appeared, probably more harm than good will be done by opening up foul drains or cesspools (*vide Appendix*, No. 128); but sulphur may be burnt in infected localities. Fires about thirty yards apart should be kept burning for forty-eight hours, sulphur being constantly thrown on the fire. All the fires should be lighted at once, and about four pounds of sulphur will be required for each fire during the period.

When travelling, the neighbourhood of localities in which the disease prevails should be avoided as encamping grounds, or, if necessity compels a stay near such places, tents should be so pitched as to let the wind blow from the tents to the village, instead of the reverse. As little communication as possible should be allowed between the camp and the village people. Neither drinking-water nor food supplies should, if avoidable, be obtained from infected places. Milk especially should not be so obtained, as it may be mixed with contaminated water. If possible, persons should leave infected localities marching against the wind.

What may be regarded as *personal hygiene*, in contradistinction to *general sanitation*, must be attended to. Persons should take especial care not to be chilled by the early-morning change of temperature. Fear of the disease, as predisposing greatly to attacks of cholera, must be guarded against, and it should be recollected that in the worst epidemics exemption is the rule and not attack. Both milk and water should be boiled before being used. Special care should be taken in the use of fish, some varieties being particularly liable to become tainted or even poisonous (*vide p. 122*). The incautious use of unripe fruit, of bad tinned provisions, of badly cooked vegetables, exposure to the midday sun or to cold night dews, great fatigue, and intemperance, all exercise a debilitating effect on the system, or excite irritation in the intestines, and thus render any person a more easy prey to the malady. During cholera seasons, purgative medicines should be avoided if possible altogether, and especially saline purgatives. The best aperient during a cholera season is *pure* and fresh castor oil.

When cholera prevails in a native village, and it may be desirable to send medicines for distribution, or for entrusting to native servants or others, for general use during seasons of cholera epidemic, nothing is a better compound than assafoetida and opium pills. These are composed of one and a half grain of assafoetida, one grain of red pepper, and half a grain of powdered opium or extract of opium, and directions should be given for one pill to be taken by the patient after every loose stool. In

the absence of medical aid, these pills will often prove useful in checking the malady, if taken at the commencement of the illness.

CHYLURIA.—This term is applied to a milky condition of the urine. Sometimes a milky discharge takes place from the lymph-vessels of the armpit, groin, or scrotum. It may be the forerunner or accompaniment of elephantiasis, and has been thought due to *filaria*, or worms in the blood. Anti-scorbutic remedies (*vide Scurvy*, p. 382) will be advisable, and tonics as Recipe 74.

CLUB FOOT.—This affection presents several varieties. The most common are, when the heel is drawn *upwards*, or the foot is turned *inwards*; or, as often happens, when *both* such conditions prevail. When the heel is drawn upwards, the person walks on the sole of the *foot*, and on the toes; or, in bad cases, on the toes only. When the foot is turned inwards, he walks on the outside. Sometimes the foot is turned outwards, and the person walks on the inner edge. Sometimes the toes and front part of the sole are drawn upwards, and he walks on the heel. The deformity arises from *contraction* of some muscle or muscles acting on the foot, or from *paralysis* of some muscle or muscles, in consequence of which the opposing muscle or muscles act uncontrolled. Club foot is commonly congenital, the child being so born; but it may come on gradually after birth, from spasmodic contraction of muscles. Such cases usually require a surgical operation, consisting in the division of the tendon of the muscle or muscles by which the foot is drawn into the unnatural position.

The variety of club foot where the foot is turned outwards and the person walks on the inner edge may come on after birth, when a child has *weak ankles*. In the natural healthy condition, the weight of the body rests principally on the heel and ball of the foot, the two forming the extremities of what is called the ‘plantar arch.’

By this means an elasticity is given to the foot, and consequently to the step or gait, which would be altogether wanting if the 'plantar arch' were not there, or if the parts entering into its structure were joined in one mass of bone, instead of consisting of small bones jointed together accurately, with ligamentous substance. When children are allowed to walk too soon, particularly if fat and heavy, the *astragalus*, or upper bone of the plantar arch, sinks down, causing a lowering of the arch and a flattening of the sole of the foot. High heels tend to the same result. This defect, when slight, is known as **WEAK ANKLE**; when more decided, it is called **FLAT** or **SPLAY FOOT**. In bad cases the bone or top of the arch may descend so much as to render the *inner* side of the foot *convex* where it should be naturally concave. Or in still worse instances, the deformity may increase until it assumes the form of club foot.

Treatment.—Children frequently show a tendency to weak ankles, which as they grow older disappears. *No child having such tendency should be encouraged to walk early.* The ankles and feet should be frequently bathed with strong salt and water. Rubbing and properly directed manual extension should be daily practised. Boots should not be worn, the pressure of the top of the boot round the ligaments of the ankle tending to wasting and weakness of the part, instead of proving, as is popularly supposed, a support. A spring, or piece of cork, fitted in the sole of the shoe, so as to press against the flattening of the arch, is sometimes useful, but should not be worn if it causes pain. Low heels and thick soles are necessary. When a person walks, the heel impinges on the ground first. High heels throw the weight of the body on the toes, which is unnatural. If the deformity from weak ankles becomes great, the remedies are peculiar supports constructed by a surgical-instrument maker.

COLIC.—This term is commonly given to all severe griping pains in the bowels. It is variously denominated from its different causes and circumstances. When its principal symptoms are sharp and spasmodic pains, it is called *Spasmodic Colic* (or vulgarly ‘cramps,’ ‘spasms,’ or ‘stomach-ache’); when with the pain there is vomiting, it is called *Bilious Colic*; if flatulency causes the pain, it takes the name of *Flatulent* or *Windy Colic*; when it is caused by indigestible food, it is called *Accidental Colic*; when accompanied by heat and tenderness in the bowels, it is designated *Inflammatory Colic*; when colic is attended with *obstruction* of the bowels and evacuation of faecal matter by the mouth, it is called *Iliac Passion*. There is also a peculiar kind of colic called ‘lead,’ or ‘painter’s’ colic.

Colic usually comes on suddenly, often in the night, with spasmodic griping and twisting pain in the bowels, often faintness and nausea, and perhaps vomiting. There is also spasmodic retraction of the muscles about the navel, which part appears drawn inwards. The bowels are constipated at first, and distended with wind. At a later period there is usually strong desire to stool, the passage of which is attended with great relief. Colic, *excepting when inflammatory*, is relieved by pressure on the bowels, the patient frequently rolling about or lying on the belly. Often, if the patient is in bed, or lying on the back, the legs are so bent that the thighs press on the bowels, the legs being retained in such position by the hands grasping the shins. This distinguishes the malady from inflammation of the bowels, in which state pressure is very painful, and the patient lies on the back and remains still, with his legs drawn up (*vide* p. 79). There is ordinarily no feverishness with colic, while inflammation is attended with much fever. *Inflammatory colic* and *iliac passion* or *obstruction of the bowels* are often sequels of the other

varieties of colic, which, unrelieved by medicines, may pass into the inflammatory stage or the obstructed condition.

Colic should be further distinguished from a fit of the *gravel*; from the beginning of *dysentery*; from the blind *piles*; from a *stone* passing through the gall-duct; from *cholera*; and from *rupture*. During a fit of the *gravel*, the testicle is often retracted and the leg benumbed, with pain shooting down the inside of the thigh; there is also pain in the loins, and frequent desire to make water. The gripping pains felt at the beginning of *dysentery* are not so violent as those of colic, are less 'twisting' or 'wringing' in their character, and are attended with diarrhœa instead of constipation. The pain from *blind piles* is confined to the lower bowel, and there is probably bleeding. The pain from a *stone* in the gall-duct is felt in the pit of the stomach, shooting through to the back. In *cholera*, there is usually, preceding diarrhœa, vomiting and purging of white fluid and stoppage of urine. The symptoms of rupture often at first resemble colic, and in every case of colic inquiry should be made as to the existence of a rupture, which appears as a swelling in the groin (*vide* p. 589).

Treatment.—The treatment of colic should be conducted after a consideration of the cause. If it appears to be an *accidental* colic, that is, arising from indigestible food, as salted meats, pork, salmon, rich gravies, or 'high' game, an emetic, as Recipe 54, will remove the offending matter, and so relieve the pain. To assist the action of the emetic, the patient should take copious draughts of lukewarm water. After the vomiting, a mild aperient, as Recipe 2, may be taken.

If the colic is of a *bilious* nature, that is, accompanied with faintness, nausea, or violent vomiting of bilious material, with constipation in the first instance, succeeded by desire to go to stool, the malady has probably arisen

from a prolonged course of high living. If there is great retching, a mustard-and-water emetic (Recipe 54) will be desirable. Then, unless purging is very severe, the remedies, are, Recipe 1, followed in a couple of hours by Recipe 2. The bilious variety of colic is often connected with, or caused by, a gall-stone passing from the gall-bladder into the bowels (*vide* p. 274); but when this is the case there is not the sudden desire to go to stool as mentioned above.

If the colic is of the *flatulent*, or *windy*, or *spasmodic* variety, arising probably in nervous or delicate persons from unripe fruit, from eating too much vegetable matter (as cabbage or spinach), or from the habit of drinking too much tea, alkaline carminative draughts, as Recipe 38, or 40 drops of sal volatile in an ounce of water, will be desirable. A full dose of tincture of ginger (*vide* p. 14) is a safe and popular remedy. Effervescing draughts of citrate of magnesia (p. 15) may also be given every two hours. If these measures do not succeed, 15 or 20 grains of chloral. The griping pain in the belly often experienced on first going out in the early-morning cold in India is a variety of spasmodic colic, but rarely requires medical treatment.

During any variety of colic, pain in the bowels may be much relieved by pressure with the hands, by hot fomentations, by friction with soap liniment, or by a mustard poultice. Also, in any variety of colic, if pain is very violent, 15 or 20 grains of chloral may be given, in addition to the other measures indicated.

If, after an attack of either of the above varieties of colic, pain or uneasiness in the bowels or diarrhoea remains, a dose of 15 grains of chloral will generally afford relief.

[At the commencement of an attack of colic, especially of the bilious variety, if the bowels are obstinately confined, it will be desirable, if possible, to obtain a stronger purgative dose combined with an opiate. This may consist of 5 grains of calomel mixed with 1 grain of extract of opium,

to be followed in three hours' time by a draught composed of 1 ounce of sulphate of soda and 30 minims of strong tincture of ginger, in 2 ounces of water. In the flatulent or spasmodic variety, if the medicines as mentioned in the large type fail in affording relief, Recipe 6 if there is acidity, or Recipe 39 if much griping.]

INFLAMMATORY COLIC, AND ILIAC PASSION, OR OBSTRUCTION.—These conditions, as mentioned above, are generally sequelæ of the other varieties. Instead of the patient finding relief from the remedies, and pain being still *relieved* by pressure, the bowels may not have acted copiously, and the belly, *especially on the right side*, may become tender, with some degree of general feverishness. When colic runs on into such conditions, no purgative medicines should be given, and the patient should be treated for *inflammation of the bowels* (*vide* p. 79), or for *obstruction* (*vide* p. 82), as the symptoms indicate.

LEAD, OR PAINTER'S COLIC.—Lead, introduced into the system, excites the symptoms of colic, viz. more or less severe intestinal pain, retraction of the navel, nausea, vomiting, and constipation. Lead in the system also produces a bluish or slate-grey line on the gums, close to the teeth, and at a later period paralysis of the wrists (*vide* p. 344). People whose employment obliges them to use lead are very liable to colic, especially when they neglect the necessary precautions of cleanliness and ventilation—hence the name of the malady, 'painter's colic.' Lead colic may occur from even sleeping in a newly painted or papered room; it may also arise from the introduction of lead into the body with the food or water (*vide* p. 344). Lead colic should be treated in the same manner as advised for the bilious variety, unless remedies as below are available.

[If obtainable, give 2 drachms of Epsom salts, 20 minims of dilute sulphuric acid, and 10 minims of laudanum in 2 ounces of water every three or four hours, until the bowels have been freely moved; give also an injection, Recipe 100. After the first painful symptoms have ceased,

iodide of potassium (Recipe 21) should be given. This, uniting with the lead in the blood, forms a soluble *iodide of lead*, which passes away in the urine and other excretions.]

CONSTIPATION.—A tendency to confined bowels is natural to many persons. Or it may depend on several causes, the principal of which are liver derangement and deficient action of either the large or small intestines.

When constipation is natural to the constitution, it rarely exerts any deleterious influence. Ordinarily the bowels should be moved once daily, but to some this does not naturally occur, and the condition is unattended by unpleasant symptoms. For constipation of this description, medicines, as a rule, are unnecessary, but the manner of diet as explained below may be adopted.

When constipation occurs from inactive liver, the symptoms are more or less similar to those noted under congestion and chronic inflammation of the liver, and the treatment should be the same (*vide* p. 318).

When constipation occurs from deficient action of the small intestines, there is a sluggish action, the stools being moderate in amount, very dry, and generally, but not always, light in colour; indicating accompanying torpidity of the liver. In most cases there is an uncomfortable feeling or dull pain at the back of the head, while the tongue looks small and is a little red at the tip and edges. The mouth is viscid, or 'sticky,' indicating the condition of defective secretion prevailing in the bowels. There is also loss of spirits and loss of appetite, with probably more or less flatulence, and occasionally slight colicky pains. This form of constipation is more common in unhealthy malarious districts. Purgatives in such cases are not usually required. What is wanted is the presence in the intestines of more liquid. A glass of cold water taken every morning on rising is often beneficial. Or, this not succeeding, 2 drachms of sulphate of soda and 2 grains of quinine

should be dissolved in a pint of water and taken as a morning draught. Or fruit, such as baked apples or stewed prunes, eaten in the morning, oatmeal porridge for breakfast, smoking after breakfast, brown bread eaten instead of white, the avoidance of pastry, regular exercise, and regular but not hurried visits to the water-closet, will generally be successful. Figs, prunes, and stewed fruit are valuable auxiliaries; but vegetables are objectionable if they produce flatulence. Such measures may be assisted at first by castor-oil or senna, or Recipes 1 and 2, which are good ordinary aperient doses.

When the large intestines are in fault, the tongue is furred, the breath foetid, the complexion sallow, and sometimes jaundiced. There are occasional attacks of colicky pain, and piles are often present, while the stools are dark or mottled, the part first passed being very hard, and the remainder softer, or even liquid. This is particularly the case when the constipation results from accumulation of fæces in the lower gut close to the fundament, known by the stools consisting of round, hard, black masses or balls. Some persons suffering from torpor of the large intestines state their bowels are regular simply because they go to the closet every day, when in reality they suffer from habitual constipation, as they only pass small lumps of hard fæces. Occasionally, also, there may be straining, and the hard lumps may be passed with a little watery discharge, the result of the irritation they cause. This is mistaken for diarrhœa, instead of being recognised as the effect of constipation. This form of constipation is more likely to occur in India than in temperate climates. The bowels, particularly the large intestines, partaking in the general debility and want of tone resulting from lengthened residence in the tropics, become eventually less able to expel their contents, which leads not only to constipation, but also to accumulation of faecal matter in the gut, and

sometimes to the condition described as chronic inflammation of the *cæcum* (*vide* p. 81). For constipation depending on defective action of the large intestines, occasional doses of castor-oil or sulphate of soda (Recipe 2)—sometimes one suiting best, sometimes the other—are among the most desirable medicines. One grain of ipecacuanha taken early in the morning is often very useful in torpor of the intestines. Rubbing and kneading the belly on each side with soap liniment will also frequently promote healthy action. Then a regimen, as noted, for deficient action of the small intestines, should be adopted; while in many cases, instead of repetition of medicine, the periodical use of an enema syringe will prove the better course, especially when there is accumulation in the lower gut, for the expulsion of which medicines are not well adapted.

It should be recollected that the proper stimulus to the periodical action of the bowels is food perfectly digested. Instead, therefore, of constantly resorting to purgative medicines to remove constipation, it is better to accomplish the object by care in not eating hurriedly, so that the food may be well masticated, by some change of diet, and by attention to the teeth if necessary. On the other hand, constipation, unless natural to the constitution, even if requiring medicines, must not be neglected, and the first tendency to it should be guarded against, lest it become habitual. For it is one of the causes of the following and other maladies: anæmia (*vide* p. 46); apoplexy (p. 53); chlorosis (p. 50); colic (p. 131); cramps in the legs (p. 409); discharges from the privates (p. 364); fissure of the anus (p. 272); irritable bladder (p. 73); piles (p. 347); sciatica (p. 378); varicocele (p. 454); varicose veins (p. 456).

[Other medicines useful for occasional constipation occurring to ordinarily strong and healthy people will be found in Recipes 9 and 10. For weakly people, and when there is suspicion of accumulation of fecal

matter in the lower bowel, Recipe 13 or 15 will be more suitable, provided piles are not present. If present, Recipe 12. Torpid bowels may also generally be much benefited by one quarter of a grain of extract of belladonna taken morning and evening. The extract may be made into pills, and the dose may be gradually increased, by a quarter of a grain, every five or six days, up to 1 grain. 'Valoid fluid extract of *Cascara sagrada*' is a valuable remedy for habitual constipation, especially when associated with piles. Aperient mineral waters are often of service. Of these Friedrichshall and Hunyadi Janos are deservedly in high repute, the latter having the advantage of being almost tasteless. For constipation, especially of females, not apparently due to any prominent cause, the following recipe is advisable. Extract of aloes, half a drachm; extract of *nux vomica*, 6 grains; extract of *hyoscyamus*, 1 scruple; powder of *ipecacuanha*, 1 grain. Divide into 20 pills; 1 to be taken at night.]

CONSTIPATION OF CHILDREN.—Although infants and children are more liable to diarrhoea in India than in Europe, this does not prevent them suffering from constipation. As explained below, constipation is sometimes the cause of diarrhoea. Fever, convulsions, and spasmodic croup may also arise from hardened masses of *fæces* retained in the bowels; therefore the conditions should never be neglected.

The constipation of infants and children depends on different *causes*, the principal of which are, improper food; sluggish action of the liver; and weakness of the muscular coat of the bowels; the latter usually a consequence of a feeble condition of the general health. Sores at the fundament, perhaps consequent on irritation from thread-worms, cause constipation, the child being afraid to stool in consequence of pain from the sore. One, two, or all these causes may be in operation, and it is by the discovery and appreciation of such causes, and by combating them by change of diet and hygienic measures, rather than by medicines, that the evils arising from constipation of children and infants may be best prevented or cured.

The symptoms of constipation in infants or children

vary. The bowels do not act with regularity, but while in one case there is simple infrequency and hardness of the motions, in another the stools are little balls, scanty, hard, frequently white greenish or mottled in colour, and passed with more or less straining. Sometimes such stools are accompanied by watery greenish discharge, or by white or jelly-like mucus, or are even streaked with blood, the result of the mechanical irritation caused to the lining membrane of the lower bowels by the hard faecal matter.

When there are simply infrequent and hard motions, the child may be otherwise apparently quite well, or the only indication of ill-health may be fretfulness, uneasy sleep, and irritability of the bladder, causing wetting of the bed. But as the stools assume the appearances last noted other symptoms arise, as flatulence, colicky pains, fœtid breath, indigestion of food, occasionally vomiting, sometimes fever, and possibly in female children discharge from the privates. Infants especially, when constipated, often suffer from indigestion of the food and vomiting, bringing up their milk in lumpy masses, some of which also pass into the intestines undigested, causing irritation, flatulence, and colicky pains.

When constipation is long-continued, alternating with watery discharges as above noted, the irritation of the hardened faeces is apt to establish a more permanent discharge of the kind which may be mistaken for diarrhœa, and treated as diarrhœa in vain, until the real cause is understood and attacked. But as the child becomes more out of health the local irritation excites a true diarrhœa, which succeeds the former constipated condition and requires a different treatment (*vide* pp. 172, 175).

Treatment.—As a general rule the constipation of infants and children is best treated by some change of food, or, if the infant is being suckled, by some change in the food and manner of life of the nursing woman. Generally

she will require more exercise, and a larger proportion of vegetables in her diet. To afford immediate relief, a dose of castor-oil may be given to the woman, which will usually be followed by some diminution of the infant's costiveness. Or a little cow's or goat's milk may be given. If the child is being fed by hand, a change from cow's to goat's milk, or *vice versa*, may be tried. The mixture of one-third barley-water, or of half a tea-spoonful of fine oatmeal at each meal, sometimes affords relief. The insertion of a pawn stalk into the fundament may be employed for infants; or a piece of soap may be pared to the thickness of a quill, dipped in salad oil, and introduced into the anus. This will frequently be followed by an easy stool. Rubbing the bowels with cod-liver oil or cocoa-nut oil, the friction being principally made from above downwards, is also often efficacious. Injections are sometimes used, but it is well to avoid these means if possible, although they are excellent remedies in cases of great debility with constipation. Warm soapy water is perhaps the best injection, given in the quantities and manner detailed in the Appendix under heading *Injections or Enemas*.

[When change of milk, as advised above, cannot be readily made, or if it does not succeed, peptonised milk may be tried, using Fairchild's peptonising powders. When hand-fed infants, as previously mentioned, suffer from constipation, vomiting of milk in lumpy masses, and flatulence, the milk may be peptonised, Recipe 22 may be used, and lime-water (Recipe 25) will probably be beneficial.]

When constipation appears to depend on an inactive liver (known by want of colour in the stools) or on want of power of the intestines to expel their contents (usually accompanying a generally feeble condition), and it becomes necessary to administer opening medicines to infants and young children, the choice (from the medicine case or from medicines easily procurable; *vide* pp. 15, 23, 26) lies between magnesia, castor-oil, and senna. If there is

costiveness with flatulence, foetid breath, and acidity, citrate of magnesia may be given in doses according to the age of the child (*vide* p. 15). This is a good laxative medicine for a child, having little taste, and it may be rendered more palatable by a small proportion of sugar. If the child is old enough to drink the draught off immediately, the addition of 3 or 4 grains of carbonate of soda increases effervescence, and also efficacy as an antacid. If there is inaction of the liver and white or clay-coloured stools, senna may be used, as mentioned at p. 26. If there is no evident deterioration of health attending the constipation, castor-oil may be used (*vide* p. 23).

The frequent use of purgatives or of the enema syringe is deprecated. The former weaken and disorder the stomach when habitually given; while the latter by persistent use impairs the muscular tone of the rectum or lower gut. The constipation of children should, if possible, be overcome by change of dieting. A little treacle given with the morning and evening meals sometimes answers admirably.

In all cases of constipation in infants and children sores at the orifice of the fundament should be looked for. If present, they should be treated by washing the part with glycerine soap after every motion, then applying with a sponge alum-water (Recipe 100), and afterwards a little simple ointment (Recipe 86). Lastly, when children suffer from alternating constipation and diarrhoea, the possibility of *worms* should be recollected (*vide* p. 482).

[If the child is under two, a tea-spoonful of glycerine every morning will often overcome constipation. When for children of two years of age and upwards the above-mentioned remedies do not prove satisfactory, mineral waters, as Pullna, or Hunyadi Janos water (the latter having the advantage of being almost tasteless) may be tried. Or it may be well to obtain and use Recipe 16, known as 'Gregory's powder.' Or 30 grains of rhubarb powder, 2 scruples of bicarbonate of magnesia, and 2 ounces of peppermint water should be made into a mixture, of which

a child two or three years old may take a tea-spoonful every four hours. During the early months of life, especially in children brought up by hand, probably after a previous attack of diarrhoea, constipation as previously described, with hard clay-coloured stools, or mottled green motions, may occur. The stools are passed with pain and screaming, and there is much wind, making the child cry incessantly. A grain of podophyllin should be dissolved in a drachm of brandy, and 1 or 2 drops of the solution should be given to the child twice a day on a lump of white sugar. It will be well to commence with 1 drop, increasing if no effect is produced. Usually under this treatment the motions become natural, the flatulence of the belly disappears, and the child quickly improves.]

CONSUMPTION or PHTHISIS.—Consumption does not attack Europeans so frequently as in colder climates, and, if not too far advanced, it may be arrested by the warmer climate of the tropics. Consumption consists in the decay of the lungs, arising from the deposit in their texture of a material derived from the blood, which is technically called ‘tubercle.’ Microscopic organisms, or a form of *bacillus*, consisting of slender rod-shaped living bodies, have been discovered in the diseased product and breath of the consumptive, and it has therefore been advanced that consumption is a localised *tuberculosis* (*vide* p. 88) which may under certain circumstances prove contagious. The first symptom noticed is short dry cough, most troublesome on rising in the morning. The patient is easily fatigued, flushes on slight exertion, and experiences difficulty in ascending heights or stairs. Then expectoration of mucus occurs, and probably spitting of bright-coloured frothy blood. The pulse is also quicker than natural, and there is generally a sensible increase of temperature towards evening. This condition may persist for weeks or months, even sometimes for years. Many persons coming to India in this first stage of consumption are prevented growing worse by the change of climate, but suffer as above either continually or periodically—their complaint being often considered by themselves and friends due to weakness or febrile influences.

In the second stage of the disease the cough grows worse, the expectoration more profuse, and becomes of a yellow colour, formed in globular masses which float in water, and are sometimes streaked with blood. *Hectic*, or night fever (*vide* p. 269), occurs, followed by profuse night sweats; and although the appetite may continue good, flesh and strength are lost. There are often now sharp cutting pains in the side and chest, the patient may lose his voice, and diarrhœa may occur. Ultimately the patient dies from exhaustion, or from a large blood-vessel giving way in the lungs, when large quantities of bright-coloured blood are passed by the mouth. This, however, may occur several times without causing death. Until the latest stage of this malady the patient is generally hopeful of recovery, and frequently fails to recognise his danger.

Treatment.—More may be done to prevent than to cure this disease. As it is often hereditary, those of consumptive family should be especially careful as to their mode of life. Avoiding injudicious ‘coddling,’ they should sleep in well-ventilated rooms, should avoid late hours, should habitually live generously, but not richly or intemperately, should shun exposure to cold or damp, and should wear flannel next the skin. When the disease has declared itself, cod-liver oil, and tonics, as iron and quinine, are beneficial. Medicines to allay the cough are also required (Recipe 57). Consumptives should never swallow the expectoration; it should be destroyed if possible by burning, and for this purpose spittoons with movable paper interior may be used. The sharing of a bed, or even a bedroom, with consumptive patients should *not* be sanctioned, and attendants should have as much fresh air as possible. Too much stress cannot be placed on the necessity of parents of consumptive family bringing up their children under strict discipline as regards diet, personal hygiene, and general sanitary

conditions of life; for such children are not only liable to consumption as they reach adult age, but are also prone to *Atrophy*, or wasting (*vide* p. 66), and to other ailments.

As medicine, special recommendation is accorded to Fellowes' 'Compound syrup of hypophosphites.' The syrup contains elements essential to the animal organisation—viz. potash, lime, and iron, also magnesia, quinine, strychnine, and phosphorus. The 'Kepler palatable cod-liver oil' is the best. But no cod-liver oil can always be borne by the consumptive's stomach, when the 'Kepler extract of malt' will prove a pleasant and efficient substitute. Special praise has also been given to *altitude* as a curative agent in consumption, the diminished pressure of the air as experienced on mountains having been questionably theorised as an important medical factor. Thus in America, Denver in the Rocky Mountains, and on the Continent, St. Moritz and the Upper Engadine, generally have been recommended for the phthisical. It is, however, only in the early stages that any such change will prove beneficial, and the benefit which unquestionably often results must be credited to the pure dry air, and not to the altitude. The second stage requires a moist equable unstimulating climate, and all patients in the latest stage should remain in the comfort of home. The comparatively equable climate of the Neilgherrie Mountains, especially at Conoor and Kotagiri, also affording any advantage to be derived from altitude, is perhaps as good a climate for the consumptive as can be found. As regards the choice of a climate for the consumptive, the mind as well as the lungs should receive consideration. As a general rule, novelty and employment of the mind are desirable, and a congregation of invalids is depressing, and therefore injurious.

CONVULSIONS.—*Vide* FITS, EPILEPSY, HYSTERIA, TETANUS, HYDROPHOBIA, in all of which diseases convulsions are prominent symptoms. Convulsions depend on some cause irritating the nerves of the part, and this irritation may be either at their seat of origin in the brain or spinal cord, as when inflammation occurs in these organs, or when spiculæ, or splints of bone, are driven into them from accident. Or otherwise, the irritation on which the convulsions depend may be at the ends of the nerves, being ~~on~~ they divide on the surface of the skin, or on the ~~weakness~~ of the bowels, into innumerable filaments. Of

this variety of convulsions *tetanus*, or 'lockjaw,' from injuries of the hand; convulsions of lying-in women from irritation in the womb; in children from teething, or from constipation, or worms, are illustrations.

CONVULSIONS OF CHILDREN.—Do not usually come on suddenly. There are generally indications that convulsions are threatening, although such signs may not be recognised. Signs of a tendency to convulsions, or, it may be said, a minor degree of convulsions, are turning in of the thumbs towards the palms of the hand, clenching of the fingers, contraction of the toes, startings during sleep, squinting, and twitchings of the face. A slight degree of twitching of the face during sleep has been called by ignorant nurses 'the angel's whisper.' Whenever any of these symptoms are observed the child should be carefully watched, and great attention should be paid to the state of the bowels and teeth, and to the diet.

A few days after birth an infant is apt to suffer from slight convulsive movements, to which nurses give the name of 'inward fits,' or 'nine-day fits.' The baby, after lying as if asleep, rolls its eyes about, or draws them up underneath the lids, perhaps moans gently, breathes a little heavily, has twitchings of the muscles of the hands, and sometimes there is a livid ring round the mouth. This either arises from indigestion, and is a warning that the quality of the food should be looked to (*vide* Chapter V., *Feeding of Children*, or *Index*), or from something wrong with the navel (*vide* Chapter V., *Ulcerated Navel*, or *Index*), which should be investigated. It may be temporarily relieved by gently rubbing the bowels, by giving two drops of aromatic spirits of ammonia (*vide* p. 8), or, if there is also wind and acidity, by using citrate of magnesia (*vide* p. 15). If not relieved the condition will probably pass into decided convulsions.

Children are subject to a nervous affection called *night*

screaming or *night terrors*. They wake up suddenly, apparently horribly frightened, and commence screaming violently. While thus screaming, they are generally quite unconscious of what is occurring around them, and cannot recognise, or be comforted by their friends, or they think some object near them is some animal coming to attack them. The screaming may last a few seconds, or it may be continued for an hour or more, and in confirmed cases the sudden waking up and screaming may be repeated several times during the night. There are generally also some of the minor symptoms of convulsions previously noted, and 'night terrors' may terminate in convulsions. It is frequently attributable to dreams and nightmare, or to the cold feeling arising from *wetting the bed* (*vide* p. 460), with which it is often associated. Sometimes the cure of this latter ailment will stop the fits of night-screaming. But generally the cause is something wrong, arising from teething, or from worms, or from the digestive organs, and as a result affecting the nervous system. During the actual fit of screaming, the only thing necessary is to endeavour to soothe and pacify.

The affection designated *spasmodic croup* is also a form of the convulsions of children. It is popularly known as 'child-crowing.' Infants in poor health often wake up in the night with a start, and for some time cannot get their breath—a condition designated by nurses 'a catch in the breath,' but which is in reality a minor degree of spasmodic croup. When fully developed the principal symptom of spasmodic croup is a remarkable *crowing* inspiration, unattended with cough, and coming on suddenly often on first waking from sleep. For a minute or so the child makes ineffectual efforts to draw breath, and struggles violently, but at length the difficulty is overcome and breath is drawn in with a loud crowing sound. The difficulty of breathing is during inspiration, and in the

intervals between the paroxysms the difficulty ceases, which does not happen in true croup. Of these attacks there may be several during the day or night. In extreme cases the face becomes livid, the whites of the eyes blood-shot, the thumbs are clenched in the hands, the fingers and toes are bent, and the joints of the wrists and ankles are forcibly turned inwards, and very violent attempts are made to breathe. Occasionally death results from suffocation or exhaustion, but the malady is not so dangerous as inflammatory croup (*vide* p. 154). The spasmodic tendency of the parts about the throat sometimes excites a peculiar condition, in which the child is able to swallow solids with ease, but chokes when it tries to drink fluids.

Spasmodic croup depends on spasmodic or convulsive action of the muscles about the upper part of the windpipe. It is distinguished from true croup by the very sudden accession and decline of the fits or paroxysms, and by the perfect freedom of the breathing in the intervals. Also, by the absence of fever or catarrhal symptoms, and generally by the absence of cough. It is usually connected with, and often immediately caused by, the irritation of swollen gums during teething, by glandular enlargements in the neck, and by constipation, or accumulation of fecal matter in the intestines. It is most common in weakly, scrofulous children who are being brought up by hand. It may occur up to two years of age, but is rare after twelve months.

Treatment.—All clothing about the neck should be rapidly loosened, plenty of fresh air should be admitted, and the child should be exposed to the current. The face should be sprinkled with cold water and fanned, while the back should be briskly rubbed. A cloth or sponge, wrung out of hot water, should be suddenly applied to the throat and removed in half a minute, several times, at intervals of five minutes. If the attack has come on after a meal,

a finger should be passed into the child's throat to excite vomiting. A stimulant, as a tea-spoonful of wine or of brandy-and-water, may be given with advantage as soon as the child can swallow. If the gums are tender and swollen, they should be lanced immediately. If the fit has come on after a hearty meal, and free vomiting has not been excited by the finger in the throat, an emetic, as a drachm of ipecacuanha wine in a table-spoonful of water, should be given. These measures are usually successful; but if not, as soon as a warm bath can be obtained, the child should be immersed in the water, or its feet may be put in mustard (a tea-spoonful) and warm water (a gallon) if a hot bath is not procurable (*vide Appendix, Baths.*)

But it is during the intervals between the attacks that curative agents are most serviceable, and these must depend on the causes producing the irritation. Bromide of potassium (Recipe 20) should always be used. The condition of the gums and teeth must be constantly investigated (*vide Teething*, p. 429). Constipation or worms must be removed (*vide* pp. 138, 482), and swollen glands in the neck must be treated on surgical principles (*vide Enlarged Glands*, p. 278). If the child is being brought up by hand, a wet nurse should be procured.

The general convulsions of children mostly occur in delicate infants about the period of teething, especially when children have been fed with improper food. Convulsions from teething, or from any other cause, happen much more rarely to children nourished on human milk than when fed on other foods. Convulsions may arise from the irritation of worms in the intestines. They may be caused by constipation, and the consequent collection of hard faecal matter in the bowels, or from a piece of potato-peel swallowed, or even from the flatulence to which such conditions give rise. They may result from the irritation

caused by prolonged diarrhoea. They may come on during fever, or from hooping-cough. They have been known to arise from some local irritation, as, for instance, a blister, or from a pin in the clothing pricking the skin. They have followed suckling the child after the mother has given way to a fit of hysterics or passion. They may follow the sudden disappearance of a skin eruption. They may be due to anæmia (*vide* p. 46). Lastly, they may be premonitory symptoms of serious maladies, such as epilepsy, or water on the brain, or the prelude to small-pox or scarlet fever.

Symptoms.—An attack of general convulsions in a child presents spasmodic contractions of the arms and legs, which are suddenly rendered tense and hard, and are drawn upwards and inwards towards the body; the eyes are also turned up under the lids, the mouth perhaps screwed to one side, while the teeth grate, the lips twitch, and froth appears at the mouth. The head and neck may be drawn backwards, or to one side, and the throat may be affected as in spasmodic croup (*vide* p. 146). Sometimes the convulsions are limited to one side of the body. During the fit the urine and feces may be discharged involuntarily, and a clammy moisture breaks out over the whole body. The pulse is weak and often irregular, the breathing laboured, and the pupils of the eyes will be found either contracted or dilated, but always insensible to light. This condition may last for a few minutes, or may endure, with intervals of incomplete cessation for hours, the child being more or less insensible during the whole period. At last the child falls asleep or cries loudly, or lies in a kind of stupor, slowly returning to consciousness, or becoming profoundly insensible. In bad attacks it may die from spasmodic closure of the air-passages. In this case the face becomes purple, the head is thrown back, violent efforts are made to breathe, and a crowing

noise like that of croup is heard, which gradually becomes fainter as the child ceases to exist.

Treatment.—In all cases all clothing about the neck, chest, and head should be rapidly loosened, plenty of fresh air should be admitted, and the face should be fanned, and sprinkled with very cold water, while the back should be briskly rubbed. If there is any throat spasm, a soft cloth, or sponge wrung out of hot water, should be several times suddenly applied to the throat, and removed from it in half a minute, at intervals of five minutes. The next treatment depends considerably on whether there are attempts to vomit, whether the attack succeeded a meal, whether the child can or can not swallow, and whether it had suffered from preceding diarrhœa.

If there are efforts to vomit, such efforts should be encouraged, by passing a finger into the throat, or by tickling the throat with a feather. *If there are no efforts to vomit, but the convulsions have come on after a full meal*, and therefore appear due to an overloaded stomach, vomiting should still be excited by the finger or by a feather. If free vomiting does not occur, and *the child can swallow*, weak mustard and water (a quarter the strength of Recipe 54) may be given as an emetic.

Caution.—If, as often happens, the child is unable to swallow, no attempt should be made to give medicines, as fluids put into the mouth under such circumstances will not pass into the stomach, but will probably trickle into the windpipe and do mischief. It is true that fluids may be given through the nostrils, but in the absence of medical aid this plan is not recommended.

After the vomiting, if the child can swallow*, a stimulant, as a tea-spoonful of wine or brandy-and-water. Then, as it is desirable to open the bowels *if the child can swallow*, and *if the convulsions have not supervened on prolonged diarr-*
a purgative, as castor-oil, or sulphate of soda, which-

ever may be at hand, should be given in doses according to the age of the child (half a tea-spoonful of castor-oil for an infant six months old, and a tea-spoonful at one year old—of sulphate of soda half a drachm at six months old, 1 drachm at a year old, in a little water), to be followed in the course of an hour by an enema composed of, for an infant of six months old, 1 drachm of castor-oil in 1 ounce of soapy water; at one year old, of 2 drachms of castor-oil and 2 ounces of soap water. *If the child cannot swallow*, the enema should be given at once. To unload the bowels is, in the majority of cases, a matter of primary importance, and therefore, if not freely moved, the medicine and enema should be again used after the lapse of two hours.

If the convulsions have followed diarrhœa and the child is weak and debilitated, purgatives should *not* be given. *In such cases, if swallowing is possible*, for infants small doses of chlorodyne, according to the age of the child (*vide* p. 12), should be administered every two hours; or, for older children, chloral may be given in a dose of 4 grains for a child two years old, and 2 grains at one year old; the dose to be repeated twice at an interval of two hours.

In all cases, if the child can swallow, bromide of potassium (Recipe 20) should be used every two hours, *after* the vomiting is over; or if purgatives are used, *after* the bowels are well open. The first doses of this medicine may be given with the chlorodyne or chloral as above. *But if a child is not able to swallow*, an injection containing 3 grains of chloral and 5 of bromide of potassium in an ounce and a half of water may be given from ten to fifteen months old; half a grain of each and 2 tea-spoonfuls of water being added for every month up to twenty-four.

If there are no efforts to vomit, and the attack has not

come on after a meal, the irritation causing the convulsions is probably in the intestines and not in the stomach. In such cases the treatment mentioned above after the vomiting should be pursued (vide asterisk, p. 150).

In all cases, if the gums are swollen (vide p. 434) they should be lanced immediately; sometimes lancing the gums is followed by cessation of the convulsions. Then, as soon as possible, if the convulsions are not connected with prolonged preceding illness, and if the child is ordinarily robust, it should be put into a hot bath of the temperature of 98° to 100° Fahr., where it should be kept for ten minutes. While in the bath cold water may be applied to the head. If from debility or long illness the child is weak, it may be enveloped in a blanket wrung out of hot water, round which two or three dry blankets should be wrapped. The child should remain thus covered for fifteen minutes, when it should be gradually uncovered and well dried with soft warm towels, being handled with the greatest care and not subjected to sudden jerks. If the child is very weak, it will be advisable to put the feet in warm mustard-and-water (a tea-spoonful of mustard to about one gallon of water) instead of using hot bath or blanket. The child should afterwards be kept perfectly quiet in a darkened room, and all noise, talking, &c., should be avoided. In half an hour or so, if there is return of convulsions, a mustard plaster, or if available the mustard leaf (Recipe 109), protected by muslin, should be put on over the stomach and kept on until the skin is reddened. The child should be kept lying on its left side as much as possible.

[If the above measures do not succeed, and if there is no heat of head, ten drops of chloroform may be sprinkled on a handkerchief, and the latter held two inches from the child's mouth and nose, so that it may inspire an atmosphere impregnated with chloroform, which will soothe the system and diminish the convulsive tendency. If the child cannot swallow, and it appears from previous constipation decidedly necessary to

open the bowels, a little croton oil should, if possible, be procured, *half* a drop of which should be mixed with a little sugar, and placed with a feather on the back part of the tongue. *If the child is able to swallow*, and the oil, or sulphate of soda given as mentioned in the large type, do not thoroughly open the bowels, 1 grain of calomel and 2 of rhubarb should be procured for a child one year old, and 2 of calomel and 2 of rhubarb for a child of two years of age.]

After an attack of convulsions, unless the seizure has been preceded by prolonged diarrhoea, it is desirable to maintain a free action of the bowels for some days, and for this senna tea may be employed (*vide* p. 26). If the child has been previously flatulent, and the stomach out of order, antacids, as citrate of magnesia (*vide* p. 15), may be given. The existence or otherwise of worms should also be ascertained, and if necessary the treatment appropriate for the expulsion of worms (*vide* p. 482) should be adopted. The teeth should also receive more than ordinary attention for some time after an attack.

Great care should at all times be paid to the diet of children liable to this dangerous affection. One of the most common causes of convulsions is excessive and improper feeding. Convulsions in children following hysterical or other nervous excitement in the wet nurse indicate the desirability of change of nurse; or, if this be impossible, the substitution of animal milk.

CORNS.—Are growths from the skin, mostly caused by pressure of the shoe on prominent parts of the feet. If change of boots and attention to the ‘fit’ do not cure or relieve corns, they may be treated as follows:—Hard corns on the sole of the foot, or on the sides, or on the toes, are best treated by filing with a sharp file having a convex side, until slight pain is experienced, and then applying a plaster of soft leather, having a central hole to receive the corn. By this treatment, and by avoiding pressure from hard or ill-fitting boots, or from rough, creased, or darned stockings, corns in such situations may

often be thoroughly cured. Soft corns generally occur between the toes, and are best relieved by keeping the toes separate by a little cotton-wool placed between. A piece cut out from the finger of a kid-glove and put on the toe may be also used. The fit of boots and shoes must be attended to, so that no pressure from ill-made boots or hard leather may be made on the part. By thus preventing the pressure and keeping the parts clean soft corns will usually disappear.

[If the above measures do not succeed, corns may be treated by the application of *liquor arsenicalis* two or three times daily. Stronger applications are *acetic* or *nitric* acid, which should be *lightly* applied by means of a small stick of cedarwood or a small camel's-hair brush. *Only the centre* of the corn should be thus touched, and if a soft corn the toes should be kept asunder for a few minutes, in order that the acid may soak in. Care must be taken that the acid does not touch any part except the corn. Then apply between the toes a small portion of cotton-wool. Repeat every other day until the corn ceases to be inconvenient.]

CORNS AND BUNIONS sometimes suppurate from the pressure of the boot, or as the effect of injury. They then require the removal of all pressure, rest, poultices, and afterwards healing ointment (Recipe 86).

CROUP.—Croup consists of the formation of a white membranous deposit in the windpipe and air-passages leading to the lungs, which, blocking up these air-tubes, or the small aperture leading from the throat to the windpipe, causes the extreme difficulty of breathing characterising the disease. But milder attacks of a croupy character occur, in which the disease does not proceed so far as to the formation of this deposit. In such cases the symptoms are as afterwards detailed until the coughing up of *mucous fluid is mentioned* (*vide* p. 156), when after expectoration this mild variety of croup generally passes off.

The period between one year of age and five is the time during which children are most susceptible to croup.

After five years of age the tendency to croup gradually declines, while the danger from an attack is less.

The causes of croup are generally admitted to be cold, or exposure to damp, changeable atmosphere. But there is in some children an unexplainable constitutional aptitude or tendency to attacks of the disease, which renders them liable to suffer from an exposure or change of temperature so slight as not to be felt by other children; also, when a child has once had an attack, a recurrence is not unfrequent. Croup has also—doubtless from some unknown atmospheric condition—prevailed epidemically in various localities. As a general rule, low, damp positions are favourable to croup; especially if exposed to north-easterly winds. On the other hand, the changeable temperature of hill stations, especially in the Himalayas, appears to favour croup.

Symptoms.—Croup sometimes commences quite suddenly, the child waking in the night with difficulty of breathing. In most instances there is for some days a little feverishness, accompanied by sneezing, watering of the eyes, and dry cough, the child appearing to have only a common cold. The child is probably cross and irritable, and the voice perhaps husky and hoarse. After such premonitory symptoms, or without them, the child suddenly awakes with an appearance of suffocation, and with a hoarse, ringing cough, to which, from its peculiar sound, the term 'brassy' has been applied. The sound of this cough is so peculiar, that once heard it can scarcely be mistaken. It resembles either the crowing of a cock or the bark of a dog, and has a ringing, metallic tone. The breathing is difficult, and the air is *drawn in* with a sound resembling the passage of air through muslin, or through a metallic tube. The cough, as also the difficulty of breathing in a lesser degree, occurs in paroxysms, in the intervals of which the child may have a little restless sleep. At first the cough

is dry, but at length a *mucous fluid is brought up*, after which much relief may be experienced and the disease may subside.

If this favourable termination of the attack does not occur, tubes or flakes of a whitish membranous substance appear. The efforts to bring up such material are very great; the countenance is flushed, sometimes almost livid, and the body is covered with perspiration; the hands are clenched, the arms thrown about, the bed-clothes tossed away. The child sometimes sits erect, sometimes lies down, and sometimes the head is rigidly bent backwards. The eyes project, and the whites of the eyes become congested. red, or 'bloodshot.' The pulse is quick and hard, the skin burning, and the thirst great. The little patient frequently carries the hand to the throat, as if to remove some obstruction. In the morning the symptoms somewhat abate, and the child continues better during the day; but this seeming step towards recovery is often deceitful—the return of night being accompanied by a re-accession of suffering. If the case ends favourably, there is gradual amendment, after a considerable amount of *flaky* material has been coughed up. If the disease terminates fatally, the paroxysms of coughing and the difficulty of breathing become more violent and incessant, until from want of strength the cough grows husky, faint, and muffled, when the child dies, partly from exhaustion and partly from suffocation. Often, also, towards the end of the case, one or more convulsive seizures occur, during which the patient may expire. The duration of the malady may be from twenty-four hours to five days.

For the distinction between *croup* and *diphtheria*, see *Diphtheria*, p. 182.

Treatment.—On the first appearance of croupy cough or hoarseness, ipecacuanha and paregoric (Recipe 57) should be given, and the patient should be well protected from

cold, especially at night. In children subject to croupy attacks, the malady may often be stopped in the first stage by giving, when the child wakes up with hoarse cough, a tea-spoonful of *salad* oil, which, as it is swallowed, lubricates the parts about the entrance of the windpipe; and by lighting several lamps in the room, or otherwise increasing the temperature, often in India so much less by night than by day. For this purpose, when children are subject to croup, several lamps should be put ready, so that they may be lighted immediately. Or, if these means are not available, the child should have some hot tea and be covered up warm.

When undoubted croup is present, an emetic should be at once given. This, for a strong child of two and a half to three years old, should consist of 3 drachms of ipecacuanha wine in two or three ounces of warm water. If the patient is not a strong, robust child, 2 drachms of ipecacuanha wine, with two or three ounces of water, should be given every five minutes till free vomiting occurs. The action of the emetic should be assisted by a warm bath of from 98° to 100° Fahr. in temperature, in which the patient should remain about eight minutes, being then well and quickly dried and wrapped in blankets. If the emetic appears to produce relief, it may be repeated in about one hour, after which ipecacuanha wine in from 5- to 8-drop doses, with a drachm of water, should be given five or six times every hour. If the child is strong and robust, leeches should also be applied over the *upper part of the breast-bone*, in the number of one moderate-sized leech for each year of the child's age. But when the leeches come off the bleeding should be stopped, which can easily be effected by pressure with the finger on the leech-bite against the breast-bone (*vide* p. 512 and *Appendix* No. 117). After the vomiting from the emetics has ceased, if the bowels have not acted freely, a tea-spoonful of castor-oil should

be given. Neither opium nor any other narcotic agent should be used to procure sleep, as they would be injurious by preventing expectoration. During the daytime, when symptoms ameliorate, Recipe 57. As blisters or other counter-irritants rarely seem to do good in this disease, their use is not recommended, but a sponge wrung out of hot water and applied to the throat often proves beneficial. In the latter stages of the complaint, stimulants, as wine or brandy-and-water, are indicated. *Throughout the treatment the object is to combat the inflammation, not to weaken the child*; therefore, if possible, the patient should be induced to take strong broth or other nourishing fluids at any period of the disease; and if the child cannot swallow, they should be given as injections; or, if practicable, *digested enemata* (*vide Appendix*) should be used.

The remarks made at pp. 104, 107, under *Bronchitis*, regarding *temperature* of the sick-room and *moistened atmosphere*, are *equally applicable to croup*, and should be *fully attended to*.

When all measures fail, opening the windpipe has sometimes proved successful; but this operation can only be undertaken by a surgeon.

Children subject to any variety of croup require great care as regards their diet, and attention in avoiding catching cold, or ordinary cough, which in those constitutionally predisposed is liable to terminate in an attack of croup.

COUGH.—Cough is a symptom of other affections rather than a malady in itself (*vide p. 37*). Cough differs in its character according to the causes. Cough, sometimes attended with expectoration, at others ‘dry,’ occurs in catarrh and influenza. In consumption, when it is constant, with pain in the upper part of the chest, fever, and wasting of the body. In asthma, with difficulty of breathing coming on in fits, and generally in the night. In inflammation of the lungs, when the cough is followed by

expectoration of a rusty colour. In hæmoptysis, when bright-looking blood is coughed up. In pleurisy, when it is attended with stabbing pain in the side. In croup, when it has a brassy sound. In measles, with discharge from the nose, and watering of the eyes. In acute bronchitis, when the cough is accompanied by tenacious expectoration like white of egg. In the teething of children, when it is particularly troublesome at night. Cough may also arise from an elongated uvula, from ear affections, from hysteria, or from stomach and liver derangements. In all these, and in various other maladies, cough is a distinguishing and prominent symptom.

Cough, in the popular acceptation of the term, is, however, mostly the consequence of cold, damp, or draughts, and is usually accompanied with some degree of *bronchitis* (*vide* p. 102). Ordinary cough may be best relieved by measures which promote perspiration. Three or four grains of Dover's powder may be taken twice or thrice a day; or Recipe 56. If the urine is thick, Recipe 57.

[A good cough mixture may be made as follows: Take of honey and treacle, of each 4 ounces; of vinegar 5 ounces; mix and simmer them over a slow fire, then add a dessert-spoonful of ipecacuanha wine, and the same quantity of paretic. The dose is 2 table-spoonfuls three or four times a day.]

DELIRIUM.—Delirium means temporary disorder of the mental faculties, which reveals itself in the language or actions of the patient, and is a symptom of disease rather than a disease itself (*vide* p. 37). It may vary in degree, from slight wandering and incoherence, to complete and thorough derangement of the mind. Frequently the patient has some fixed delusion. Delirium usually tends to be worse at night, or it may only come on at that time. A delirious patient may often be roused so as to become temporarily coherent, or the delirium may be

constant. Delirium often occurs after a person has been drinking to excess, when it is generally accompanied by delusions of the mind, by trembling of the hands, and by restlessness and timidity of manner. Delirium also arises from the weakness following continued bleeding, or from almost any cause of great exhaustion, such as bad burns, wounds, or compound fractures. It is also often present during the course of fevers. Of this *febrile delirium* there are two forms—one occurring in the early stages of fever, often marked by great excitement, struggling, and displays of strength; the *second* form supervening in the latter stages of fever, when the patient lies prostrate on his bed, utterly helpless, and muttering indistinctly—a condition known technically as *typhoid*. Lastly, delirium is a symptom of inflammation or other disease of the brain, when the delirium is characterised by great fury and violence.

In most instances of delirium the patient will require to be restrained, so as to prevent his getting out of bed or otherwise injuring himself. Persuasion and gentle force, a soothing manner, combined with watchfulness, firmness, and decision, are required from the attendants; for contradiction, and the exercise of authority, always excite opposition from the delirious. As a general rule, delirious people may be sufficiently restrained without mechanical means; but in exceptional cases, or when sufficient help cannot be obtained, the strait-waistcoat may be employed.

The strait-waistcoat is made of strong cotton cloth, and should extend from the neck to below the waist. It should have no opening in front, but tie down the back with tapes. The sleeves should be long enough to extend half a foot beyond the hands, and should be closed at the extremities, round which a cord or strong tape is tied. The waistcoat should also be furnished with shoulder-straps. When used, the tapes should be tied down the back, and the cords or tapes attached to the sleeves may be tied to the foot of the bed, if the patient's hands are required by his sides; or to the opposite sides of the bed, if the hands are crossed over the body. Strong tapes or rope, passed through the shoulder-straps, and tied to the bed, effectually secure the patient's body.

DELIRIUM TREMENS.—This is the peculiar delirium of the drunkard, and presents certain characteristics differing from any other kind of delirium. It is generally caused by continuous or prolonged drinking, but may follow a single indulgence in excess. Or it may come on after a person, habitually drinking, suddenly ceases doing so. Drunkards are especially liable to this delirium after a severe injury. The patient is incoherent, and fancies he sees all kinds of frightful objects, especially at night; his hands tremble, his eyes wander, his pulse is feeble, his skin moist, he has no appetite, and he cannot sleep. The patient, however, is seldom violent, and may be generally restrained without force or mechanical restraint, although the reverse occasionally happens. But there is cunning with the delirium, and the patient may secrete such articles as razors or knives, so that he requires watching. Often the person exposes himself to injury by endeavouring to effect an escape from his attendants, or from imaginary dangers. In fatal cases the delirium is succeeded by insensibility, in which state the patient dies after a period in which heavy breathing, twitching of the limbs, and involuntary discharge of fæces, with perhaps convulsions, are the most marked symptoms.

The mental delusions in delirium tremens are peculiar. The patient may declare there are snakes under his pillow, or he may be seen listening to the arm of a chair, which he believes to be a hissing serpent; or he may accuse a bystander of a design on his life, or imagine he is besieged by a party of soldiers; or he will pretend to be busy with his daily avocations; or imagine himself possessed of great wealth, which he will either hoard or lavishly distribute.

Delirium tremens must be distinguished from the delirium accompanying inflammation of the brain and its membranes. This is accomplished by a consideration of the history of the case, delirium tremens occurring in

persons addicted to drink; inflammation of the brain originating without any evident exciting cause, or after exposure to the sun. In delirium tremens there is an absence of headache, and light is not painful to the eyes, while the reverse obtains in inflammatory delirium. There is in delirium tremens an absence of febrile symptoms and a moist skin, the reverse being the case in affections of the brain. In delirium tremens there is also generally a smell of liquor with the breath. It sometimes, however, happens that delirium tremens occurs in persons who, while drinking hard, have also, from exposure to the sun, or from fever, a congested condition of the brain. The symptoms of delirium tremens may then be somewhat less characteristic than as above set forth. In doubtful cases, in the absence of medical aid, it will be best to treat the case as delirium tremens.

Treatment.—In some instances purgative remedies are desirable at the first. These cases are known by the flushed, bloated appearance, the very foul tongue, the bad-smelling breath, and the history of a recent surfeit of eating as well as of drinking; in such cases Recipe 1, followed in two or three hours by repeated doses of Recipe 2, may be given. In other cases the strength must be supported by fluid diet of the most nutritious kind, such as yolk of egg, soups, and the like, which should be given often in small quantities. When there is great depression and feeble pulse, with moist pale tongue and pallid countenance, a small quantity, as one ounce, of wine, or half an ounce of brandy, may be administered with the soup, or in the shape of ‘egg-flip.’ If the patient continues to take and digest food the danger is diminished, and food adapted to the feeble state of the system, with good nursing, is the *sine quâ non*. The danger all through is from exhaustion, but this cannot be fully combated by its cause, viz. alcoholic stimulants; therefore reliance must

be placed principally on nourishing food. The disease, in short, must be treated as one curable, not by withholding stimulants altogether, but by using them in strict subordination to good nursing and careful diet and regimen.

The administration of any narcotic, notwithstanding the apparent indication in the sleeplessness of the patient, requires caution, and should scarcely be given except under medical advice. But when *there is any natural tendency or desire to sleep*, a dose of twenty grains of chloral may be given. It must, however, be recollected that opiates are only safe in delirium tremens when used with the object of aiding or seconding the natural cure of the disease.

If obtainable, *bromidia* may be beneficially used instead of chloral. The dose and composition of bromidia are given at p. 62.

Chronic Alcoholism.—Delirium tremens is not, unfortunately, the only malady to which excessive drinkers are subject. Delirium tremens usually arises from a fit of drinking, or a debauch; but persons who do not thus exceed, yet who are constantly taking fermented drinks (although not in sufficient quantities to produce delirium), are liable to fall into a condition to which the term *Chronic Alcoholism* has been applied. The signs and symptoms are restlessness, sleeplessness, growing indecision of character, with loss of mental and moral power—the latter exhibited by a tendency to tell falsehoods about drink. The features become bloated and flabby, the eyes red and watery, and the whites of the eyes often yellowish. The nose may be red, and there are generally enlarged vessels to be seen ramifying about the nose and cheeks. There is also trembling of the hands. Spirit-drinkers generally become emaciated, but malt-liquor drinkers often grow obese. Then, the digestive organs are always affected, indicated by disgust for food, especially in the morning, by morning nausea or sickness (which the person probably endeavours to relieve by a secret glass of his favourite drink), by a furred tongue, foul, sour breath, and irregularity of the bowels with fetid stools. If the constant habit of drinking is not checked, the person probably becomes affected by a special form of liver-disease, known as ‘gin-drinker’s liver,’ or *cirrhosis* (*vide* p. 322); or by chronic disorder of the stomach (*vide* p. 415); or he grows silly, probably from softening of the brain (*vide* p. 87); and perhaps becomes wholly or partially paralysed (*vide* p. 342).

Chronic Alcoholism can be cured if the person will abstain from

drink; but so great is the 'drink-craving' that the majority thus giving way are unable to avoid taking liquor, and will do so when opportunity presents, notwithstanding any promise to the contrary. When such patients come under medical treatment, they usually do so for the dyspeptic symptoms detailed above, and are not ready to confess to the amount of drink they consume, or to admit that their ailments arise from such a cause. The great points of treatment are to keep the patient altogether from liquor, and to give plenty of food; but as there is a disgust for solid food, it should be given in the shape of milk, beef-tea, soups, meat extracts, and puddings. The morning sickness may be often much relieved by soda-water and milk in equal parts, and drop doses of ipecacuanha wine may be given in a little water every two hours, for the same purpose. *Craving* for drink is best combated by 30-minim doses of tincture of capsicum, or of strong tincture of ginger, in 2 ounces of water, every three hours, or when craving or sinking feelings occur.

[In all cases of the kind, the following may be given with great advantage: Take of bromide of potassium 1 drachm; tincture of capsicum $1\frac{1}{2}$ drachm; aromatic spirits of ammonia 6 drachms; camphor water 6 ounces; 1 ounce three times a day.]

DIABETES.—This complaint comes on very insidiously, and is characterised by the passing of large quantities of pale, light-coloured urine, having an apple-like odour, and containing a large amount of sugar. (There is, however, another form of the disease, called *diabetes insipidus*, when very large quantities of urine are passed, but without sugar.) Sugar, when thus voided with urine, may be easily detected by what is known as 'Moore's test.' This consists of boiling in a test-tube held over a spirit-lamp equal parts of the suspected urine and of *liquor potassæ*. If sugar is present, the fluid becomes of a fine deep purple colour. If sugar is not present, no change results. Diabetic urine attracts flies in large numbers, which in some cases has led to suspicion and detection of the disease. The appetite for a long time remains good, and is sometimes voracious, but the skin is always dry, the bowels costive, the gums pale and spongy, there is constant thirst, and the patient wastes away. As this emaciation progresses, the general health suffers, the appetite declines,

perspirations occur, there is great debility, the heart becomes weak, and the feet may swell. There is also, in women, frequent intense itching, and sometimes *eczema* (*vide* p. 396), of the private parts, and in men *balanitis* (*vide* p. 282). Persons suffering from *diabetes* are extremely liable to cataract; also to attacks resembling apoplexy (known as diabetic coma), to affections of the lungs (resembling rapid consumption) and to carbuncle, from either of which death may result.

The cause of diabetes depends either on an over-production of sugar, consequent on the liver not acting properly, or, *secondly*, on a diminished destruction of sugar normally produced, consequent on errors in various organs. The result in either case is the same, viz. the entrance of sugar into the circulation and its discharge by the kidneys. Diabetes is very prevalent among well-to-do natives of India who lead indolent lives and consume abundance of butter, rice, sweetmeats, and sugar. Mental strain is also regarded as a predisposing cause. It also appears to be hereditary in some families.

The *treatment* of diabetes is more by appropriate diet than by medicines; but any change of diet made should be gradual and not abrupt. When sugar is being passed, the food should be nutritious, *but free from material containing sugar or starch*.

The articles of food which should *not* be taken are chiefly as follows. *Bread* made from wheats, oats, maize, rice, rye, or barley, or other grain containing starch, and every description of pastry and biscuits made with flour from the same. *Soups*.—All soups in which is flour or other thickening and colouring containing starch or sugar. *Meats*.—Smoked tongues, hams, bacon, and all other cured or smoked meat and fish, if cured with sugar. *Vegetables* containing sugar or starch, such as potatoes, turnips, beetroot, parsnips, carrots, radishes, onions, leeks, ripe fruits of all kinds, cauliflower, peas, sea-kale, the hearts of cabbages, beans of all kinds; dried fruits, such as dates, figs, raisins, currants, grapes, apples, pears, pine-apples, plums. All preparations of ordinary macaroni, vermicelli, semola, arrowroot, tapioca, sago, rice, dried peas, beans, chestnuts,

and all farinaceous foods, and all preparations containing sugar. *Drinks.*—All malt liquors, such as beer, stout, porter, cooper, mild and old ales, cider, perry, all sparkling wines, sweet liqueurs, lemonade, ginger beer, fruit syrups, and all aerated waters containing sugar; also milk, unless with permission of medical adviser.

Articles of food which may generally be taken are: *Bread.*—One or more of the several breads, cakes, or biscuits, made from bran, gluten, and almond flour; which, if really prepared as stated without starch, are very beneficial. *Soup.*—Clear soup, mutton and chicken broth, and beef-tea if not thickened with wheaten flour. *Fish.*—All kinds of white fish, fresh, salted, or smoked, oysters and other shell fish. *Meat.*—Beef, mutton, lamb, veal, venison, pork, all kinds of game, bacon, ham, tongue, and other cured meats, if no sugar is used in the curing. cheese, eggs not too much cooked. *Vegetables.*—The green portion of most vegetables, spring cabbages, turnip-tops, spinach, the green tops of asparagus, artichokes, Brussels sprouts, sea-kale, broccoli, the green part of lettuce, cucumber, celery, pickles, olives, nuts, excepting chestnuts, mushrooms. *Pastry.*—None if made with ordinary flour. *Salad.*—Watercress, mustard and cress, endive, celery, salad oil and vinegar. *Drink.*—Claret, dry sherry, dry sauterne, chablis, burgundy, hock, unsweetened gin, whisky, tea, cocoa, skimmed milk, aerated and medicinal waters not containing sugar.

A diet composed principally of skimmed milk, with bran biscuits, has been much recommended by good authority. Diabetic food may be sweetened with saccharin, which allows of a much-needed enrichment of the diet of diabetic patients, inasmuch as they may now enjoy a sweetening flavour in diabetic bread and other nutriment without the introduction of the objectionable elements of sugar (carbo-hydrates) into the system. As medicines, Recipe 75 may be generally taken with advantage; also Recipe 65 in half the dose every night. Cod-liver oil sometimes does good when the emaciation is great and the stomach does not reject the oil.

DIARRHŒA.—Originates from numerous causes, and every description is met with in India. *Diarrhœa*, premonitory of cholera; *diarrhœa*, premonitory of dysentery; and *diarrhœa* accompanying or forming a symptom of other diseases, are sufficiently treated of under the respective headings. There remain other kinds of diarrhœa, which may be summarised as—(1) *irritative diarrhœa*; (2) *diarrhœa from atmospheric changes, or chill*; (3) *hill diarrhœa*; (4) *infantile diarrhœa*.

When requiring to distinguish and treat diarrhœa, the first question is, Is it premonitory of cholera? If there is no cholera in the neighbourhood the idea may generally be safely dismissed. If cholera is in the neighbourhood, immediate treatment, on the assumption that it may be premonitory of cholera, is advisable (*vide* p. 122). The next question is, Is it premonitory of dysentery? This will not be the case if the attack commences as colic (*vide* p. 131), or if it can be attributed to any of the causes mentioned below as exciting *irritative diarrhœa*. Dysentery is more likely to follow diarrhœa arising from atmospheric vicissitudes.

1. IRRITATIVE DIARRHŒA arises in the majority of instances from *imprudence in diet*, and must be regarded as an effort of nature causing the bowels to throw off offending matter. Such matter is usually indigestible food, unripe foods, badly cooked vegetables, shell fish, inferior tinned provisions, inferior wine or beer, &c. Diarrhœa of the irritative type may arise from a dirty condition of, or from defective tinning of, cooking utensils (*vide* Chapter VI., *Diet*). Brackish water may excite irritative diarrhœa. When persons pass from districts where the water is good into localities where it is brackish, they frequently suffer from diarrhœa, especially if no precautions are taken in the way of boiling and filtering.

The above-mentioned causes of irritative diarrhœa are more or less under the control of the individual, but there are other causes not so much under control. These are *worms* (*vide* p. 482); retained lumps of fecal matter (*vide* p. 136); indigestion (*vide* p. 203); overflow of bile, or biliousness from congested liver (p. 319).

Treatment.—When diarrhœa is excited by any of the causes first mentioned, the purging is nature's remedy to free the bowels of the substances which are irritating them, and often no medical treatment is required.

Diarrhœa from indigestible food may, however, be preceded by an attack of colic, when the treatment for colic must be pursued (*vide* p. 132). Usually irritative diarrhœa is merely accompanied by more or less griping, when a spoonful of castor-oil with 20 drops of chlorodyne will be beneficial. If the purging continue, or if the evacuations are sufficiently copious to cause depression, 30 drops of chlorodyne in half a wine-glass of brandy and a little water may be taken, or Recipe 38 may be used. If there be much griping or nausea, and this is not relieved by the medicine, apply a mustard poultice or a turpentine stupe (Nos. 108, 109) over the bowels. Irritability or sickness of the stomach may be relieved by soda-water, or iced water.

If irritative diarrhœa can be traced to any of the causes *last mentioned*, while pain may be relieved by a dose of chlorodyne, the real treatment must be directed to the cause, whether worms, retained fecal matter, indigestion or overflow of bile.

2. DIARRHŒA FROM ATMOSPHERIC CHANGES, OR CHILL. This often results from sudden changes of temperature, as occur, for instance, at the commencement of an Indian monsoon, or from exposure to damp night air, or from damp clothing or bedding, or even from sitting before an open door or window, or on the first passing out into the cold early-morning air. Diarrhœa, which has been erroneously attributed to malaria, occurs after a person has been actively engaged during the day—perhaps snipe-shooting—in the heat of the sun. He returns home, feels a little feverish, has diarrhœa during the night, and in the morning feels well again. This depends on chill and fatigue, or unaccustomed exercise. On inquiry it will be found there has been exposure, when fatigued, to the evening fall of temperature, or to a dense shade, immediately after the skin has been acted upon by a powerful sun; or the person has been sitting in the wind when perspiring.

Diarrhœa may also arise from an atmosphere impregnated with emanations from foul drains and sewers. When a person is anæmic (*vide* p. 46), he or she is very liable to diarrhœa from such slight atmospheric causes, that a variety of diarrhœa occurring in anæmic subjects has been described as *anæmic diarrhœa*. Also, when persons are subject to mental anxiety and worry, diarrhœa is excited by such slight additional causes that another form has been described as *nervous or mental diarrhœa*. In any climate diarrhœa may be excited, in a weakly predisposed person especially, on exposure to vicissitude of temperature. This is probably more often the case in India, partly owing to the general tendency to bowel complaints in the East, partly to the anæmic or scorbutic taint from which so many suffer, partly owing to the mental strain to which so many Anglo-Indians are exposed, but chiefly owing to changes of temperature so readily inducing chill on a skin rendered excessively sensitive by heat.

Treatment.—Diarrhœa resulting from vicissitudes of temperature generally subsides spontaneously unless the person be otherwise in bad health, when it may be the prelude to dysentery. No kind of purgative medicine should be given for this kind of looseness, a dose of chlorodyne, or Recipe 38, being the better measure, with a mustard-leaf over the bowels, quiet, and fluid diet. But prevention is still more desirable, and this may be accomplished by caution in not sitting or sleeping in draughts, especially at the more changeable seasons of the year, by clothing in flannel, by wearing a flannel belt, and by taking a biscuit and a cup of hot tea or coffee before going out in the morning.

3. HILL DIARRHŒA.—The prevalence of a peculiar species of diarrhœa at hill stations, and more especially at the Himalayan hill stations, has given rise to the name. But this peculiar diarrhœa, often called ‘white diarrhœa,’

or 'sprue,' is not limited to hill stations, but often occurs on the plains, and is one of the worst forms of bowel complaint. The symptoms are peculiar, and consist at first of, often, *painless* diarrhœa, occurring chiefly in the early morning. The stools passed are light, sometimes white in colour, and generally copious and frothy. As the disease advances light stools are also passed in the evening, or soon after meals; but the patient, probably continuing to feel tolerably well, takes little notice of the commencement of the malady. The calls to stool, although unattended by pain, are urgent; but the fæces are passed without straining, faintness, or griping, and are succeeded by a feeling of comfort. The most distressing symptoms are fulness and distension of the bowels by *flatus*, eructations having an odour and taste of rotten egg, and other dyspeptic manifestations. But the stools are sometimes not offensive. The pulse is feeble, the tongue furred in the centre, but the appetite not much impaired. There is also slight sallowness. On inquiry the patient generally confesses to a feeling of uneasiness about the liver, which some describe as 'sense of void.' If this condition be not checked, the person falls into a state of confirmed weakness or *cachexia*. The stools become more numerous, emaciation takes place, the mind becomes weak and fretful, and fever occurs. Then, probably, the stools become dysenteric, containing slime and blood, and the patient dies exhausted.

Causes.—It has been attributed to malarious influences and to defective sanitation, and doubtless such conditions predispose to the malady. But the facts that *hill diarrhœa* is most prevalent about the period of the commencing monsoon, and that new arrivals at hill stations are more subject to it than older residents, favour the conclusion that sudden changes of temperature acting on the liver, and preventing the formation of bile, are the chief exciting

causes. Persons arriving at hill stations are often attacked with more or less severe diarrhœa soon after ascending into the colder atmosphere of the mountain climate, and this especially if the wearing of warmer clothing has been neglected.

Treatment.—Too hot drinks must be interdicted, and the diet restricted to animal broths and farinaceous gruels or puddings, with a little port wine daily. A milk diet often suits well, the milk sometimes agreeing best after boiling (*vide* p. 194). Dover's powder combined with quinine and ipecacuanha (Recipe 17) should be administered every night. But if the ipecacuanha produces sickness, the quinine and Dover's powder may be given *alone*. Chlorodyne and Recipe 38 may be used alternately: the latter compound being not only agreeable, but often especially beneficial. Mustard poultices or leaves should be applied daily, or as often as can be borne, both on the right side over the liver, and also over the bowels. Special care must be taken to keep the bowels warm. But if diarrhœa and emaciation continue, or if the motions become dysenteric, that is, containing blood, immediate change of climate will alone effect a cure.

[Recipe 30 should be used, if obtainable, instead of 38. Other prescriptions for hill diarrhœa are Recipes 40, 47; the first being preferable when there is much acidity of the stomach. The flatulence, having a sulphuretted hydrogen or 'rotten-egg' taste, may be much relieved by a drop of carbolic acid, or of creosote taken on sugar. Should these measures fail after a fair trial of three days, give tincture of cannabis indica, 10 minims; subnitrate of bismuth, 10 grains; compound spirits of chloroform, 20 minims; water, 1 ounce, three times a day. Milk peptonised with Fairchild's peptonising powders should be used if milk as mentioned above does not suit. Valentine's meal juice is also recommended.]

Diarrhœa of any kind occurring in India, if long-continued, requires change of climate, which should be taken before the patient becomes greatly debilitated. A severe

chronic diarrhœa requires at least two years in England, even if the person is apparently well soon after arrival, as the disease is very liable to return on re-entering the tropics.

DIARRHŒA, INFANTILE.—An infant's bowels should be relieved three or four times daily, and the motions should be of the colour of mustard, and free from fœtor or acid smell. The diarrhœa of children is most commonly caused in the order named, by atmospheric changes, damp and cold; by errors of diet; by undigested food, or accumulation in the bowels of hard fœcal material (*vide* p. 139); by teething; by worms; by tubercular disease of the bowels (*vide Atrophy*, p. 67), or it may come on during hooping-cough. The diarrhœa of children is often accompanied by vomiting, and is always attended with more or less flatulency, and frequently by griping, which is evidenced by the straining cry of the child, and by its legs being spasmodically raised up towards the bowels, when the pain occurs. *When the stools are a natural yellow colour, and there is no fœtor or feverishness*, the diarrhœa is probably caused by an accidental error of diet, or by atmospheric vicissitude, and it may be regarded as of comparatively little importance. *When the stools are yellow but becoming greenish after exposure*, it denotes a large secretion of bile, and there is still little cause for anxiety. *When they are green, or greenish yellow, with sour smell, and containing specks, or flakes like bread crumbs, or larger masses, of white curdy material* (which may be undigested milk, or mucus from the bowels), afterwards becoming green, there is much intestinal irritation and disorder present, and the diet is disagreeing with the child. In such cases curded material may be also vomited. *When the stools are white*, an inactive liver is denoted. *When diarrhœa of a watery character alternates with constipation*, the latter may probably be the primary cause of the

mischief (*vide* p. 139). When diarrhœa comes on suddenly, the stools consisting altogether of greenish-coloured water, accompanied by much exhaustion, the condition resembles cholera. When there is slime and streaks of blood, the malady has passed into dysentery (*vide* p. 195).

In addition to the above phases of diarrhœa, the malady in children in India is very liable to excite an inflammatory condition of the intestines, to which state the term *muco-enteritis* has been applied. This is something more than diarrhœa, and something less than dysentery, although equally dangerous. The symptoms are fever, when the temperature may rise to 104°, thirst, quick pulse, tongue coated white with prominent red spots, skin dry, urine scanty. The stools are semi-fluid, often containing hard lumps, paler than natural, a quantity of whitish mucus, while the bowels are tender, and, if the child is old enough, burning pain is complained of. It is the fever, the white mucus, the tenderness, and the pain which separate the condition from ordinary diarrhœa; and it is the absence of blood in the stools which separates it from dysentery. There is generally much *flatus*. Also nausea, but vomiting is infrequent. In addition to the burning pain, there is griping and straining on passing motions. The child lies with cold feet, hot bowels, pinched face, and shrunken body, often maintaining a short feeble cry, and it is very liable to convulsions, especially if teething. Ultimately, if the termination is unfavourable, the tongue becomes dry, the pulse quicker, and the child dies exhausted. If blood appears in the stools, the probability of a fatal termination is increased.

Treatment.—As a rule, diarrhœa in children should not be too suddenly checked, particularly if the child is teething, when it is frequently a salutary effort of nature to relieve the irritation of the system thus excited. If the purging is moderate, the colour of the stools natural,

and the motions semi-fluid, it will most usually subside without any medicine. But the diarrhœa of infants and children in India cannot safely be permitted to run on without treatment so long as would be warrantable in a temperate climate. Even the mildest form should not go untreated longer than twenty-four hours, for the rapid exhaustion of the vital powers of a child, caused by continued infantile diarrhœa, is a condition very favourable to the supervention of convulsions and other serious maladies.

The first thing to do is to look to the food, with the view of correcting any error of diet. In the case of infants, diarrhœa is often caused by improper feeding, or by over-feeding, or by some deleterious property of the milk, or by uncleanly feeding-bottles. Infants should not be nursed oftener than every two hours, and as the age advances the periods should be lengthened. If fresh milk is taken into the stomach while some of the last meal still remains, the result is generally either purging or vomiting. When the milk of the nurse is at fault, it will probably be due to improper diet or conduct of the woman, and this may require not only alteration in the food, but also the action of a purgative dose, and perhaps alteration of manner of life. If the milk is scanty or otherwise deteriorated, the nurse should be changed. If the child is hand-fed, the food of the animal from which milk is procured should be looked to (*vide Feeding of Infants*, Chapter V., or *Index*).

When medicines are necessary the best and safest treatment is to give at the onset (but not afterwards) half a tea-spoonful of castor-oil, or, if the child is a year old, a tea-spoonful. This will relieve the bowels of any irritating matter lodged there. If the purging continues, chlorodyne may be given in doses corresponding with the age of the child (*vide p. 12*). If the child is feverish at one time of the day and cool at another, the quinine and Dover's powder

(Recipe 18) may be used. If the breath or stools smell sour, lime-water (Recipe 25) should be used. If there is passage or vomiting of curded material, milk previously boiled should be tried. If the child still passes large, offensive, curdy stools the milk should be stopped and Liebig's raw-meat soup (*vide Addendum*), or, if not attainable, weak chicken broth, should be given for two or three days. Both in the diarrhœa and dysentery of children, especially if being brought up by hand, or who are partially fed by hand, such a change of food is often attended with much benefit whenever the motions show that milk is not being digested. When the milk is resumed it should be well diluted, and a dessert-spoonful of lime-water should be added to each meal. If there are *white* stools the purging will not cease until the liver acts, and podophyllin dissolved in brandy, as detailed at p. 142, may be given. If watery stools alternate with constipation the same treatment should be adopted. *Sudden diarrhœa* with copious, greenish, watery stools and great depression should be treated as cholera (*vide* p. 127). If the stools become slimy and bloody, the child must be treated for dysentery (*vide* p. 195).

If the malady assumes the condition described as *muco-enteritis* (p. 173), and there are any lumps passed in the stools, it will be desirable to give a dose of castor-oil with the view of dislodging irritating material, and which may be repeated next day if lumps are still passed. The bowels should also be well fomented daily. Quinine and Dover's powder (Recipe 18) should also be given. If milk is tolerated it is the best diet, but it is not always well borne. Milk and lime-water sometimes agree when milk alone does not. If sickness follows the milk, or if it passes away curdled, chicken broth, or Liebig's raw-meat soup, should be substituted, being given alternately. Curdled milk is to be distinguished

from mucus in the stools by its less slimy and less jelly-like appearance. In this, as in all varieties of diarrhœa, the child should have very small quantities of food, but often. Less than a tea-spoonful every quarter-hour has been kept down when larger quantities were rejected. Children with this disease require stimulants at an early period, and a tea-spoonful of port wine in water may be given two or three times daily after the first day or two.

In all cases of diarrhœa in children flannel round the bowels is advisable. Also in all cases, while using the remedies prescribed, the condition of the gums should be frequently investigated. If the gums are full, red, and swollen at the *commencement* of the attack of diarrhœa, they should be lanced (*vide* p. 434), after which, probably, the succession of remedies noted above will not be required. If, in spite of medicines, the purging continues, and the gums become red and prominent *during* the persistence of the diarrhœa, they should be lanced at the most prominent or swollen part. If the child is discovered to have worms, it should be treated with santonin (*vide* p. 486), but without the oil mentioned at the reference.

[In violent cases, when the above remedies and care in diet do not prove efficacious, Recipe 49 should be procured for simple diarrhœa as first described. If there is acidity of the child's stomach, to be recognised by sour-smelling breath, Recipe 48 should be procured and given night and morning, with Recipe 22 three times a day. If there is much griping pain, the sulphuric acid and laudanum medicine (Recipe 15). When the feeding as recommended does not succeed, Kepler's Extract of Malt and Valentine's meat juice may be tried. And in cases where the breath is very sour, milk peptonised by Fairchild's powders, as it will not afterwards curdle from the acidity of the child's stomach.]

DIARRHŒA, CHRONIC IN CHILDREN.—The preceding refers to acute or sudden diarrhœa of infants. But the diarrhœa of children, especially if neglected, often becomes long-continued or *chronic*. Chronic diarrhœa may also arise at a later period from decayed first teeth

and gumboils. The child swallows the foetid discharge from the boils, and is unable to masticate food properly. There are five or six pale putty-like offensive motions daily, occasionally varied by watery discharge, while the child becomes thin, pale, and wastes. The temperature should be taken twice daily (*vide* p. 33). If the temperature is that of health, there is probably nothing serious the matter. If it is persistently above the standard of health, there will be cause for anxiety; and particularly so if this form of diarrhœa has succeeded some other illness, as scarlet fever or measles, when the commencement of tubercular deposit in the glands of the bowels may be feared (*vide Atrophy*, p. 67). The first indication of amendment is the appearance of bile in the motions.

Great attention must be paid to protection from damp and cold, to the ventilation of the sleeping apartment, and to careful regulation of the diet, as detailed at p. 174. If the child is taking other food than milk, or if weaned, potatoes, sweet biscuits, farinaceous foods generally, as arrowroot, sago and rice, also sugars and jams, should be interdicted. Bread and milk, a little fresh meat, green boiled vegetables, and custard, instead of pudding, may be allowed. The gums or teeth should be examined and attended to if necessary.

[Malt food, as Kepler's or Mellin's, should also be given. The great point, however, is to get the liver to act, and for this purpose podophyllin dissolved in brandy should be used (*vide* p. 142).]

DIPHTHERIA.—This dangerous complaint is sometimes called *leather throat*, from the appearances which this part presents; it has also been termed *drain throat*, from the malady being found frequently associated with defective drainage and sewage. Diphtheria often prevails in an epidemic manner—that is, it affects several persons in the same house or neighbourhood at the same time; and it then spreads by infection, or by the communication

of the disease from one to another, in the manners afterwards indicated. But single cases of diphtheria frequently occur when, so far as can be ascertained, the person affected has not been exposed to infection. But, as the malady is not only communicable by direct contact, but also through the atmosphere, by means, as there is reason to believe, of minute specific microscopical germs rising from the diseased, it can never be said with certainty that infection could not have taken place.

The *causes predisposing* to diphtheria are childhood and youth, fatigue and exhaustion, and probably nervous excitability. But the poison itself is believed to be intimately connected with, if not to arise from, foul drains, sewage, or privies. Hence, in Europe especially, diphtheria is met with in houses having fixed wash-basins, and badly-trapped or ventilated water-closets, in immediate connection with nurseries and bedrooms. Such bad sanitary conditions, if not giving rise to diphtheria, often occasion sore throat, the cause of which is erroneously supposed to be cold; and the measures generally adopted against such presumed cause, by impeding ventilation, and allowing a minimum of fresh air, increase the evil. When diphtheria occurs in a house, if the children are living in good sanitary conditions it falls light; but if the reverse is the case, and especially if the drinking water happens to be contaminated from sewage or drains, the disease spreads with appalling rapidity and mortality.

It has also been shown that outbreaks of diphtheria among human beings have been preceded by the appearance of very similar symptoms among pigeons, fowls, turkeys, pheasants, sheep, pigs, and cats.

Diphtheria has been regarded as allied to scarlet fever in its nature, as these diseases often prevail at the same time or the former follows the latter. But diphtheria is more allied to croup, consisting, like the latter malady

(*vide* p. 154), in the formation of a membranous substance in and over the parts about the throat, which are at first seen reddened and swollen, and afterwards covered with a white exudation, often extending to the tongue, palate, gums, to the inside of the cheeks, and to the air-passages. The exact nature of this deposit is not yet determined, although organisms have been detected in it by microscopic examination. However this may be, the *contagious principle* is believed to be associated only, or chiefly, with the peculiar deposit which forms on the throat and other parts; which, coming into accidental contact with a healthy mouth, may take root and spread. Thus the disease has been communicated by kissing, by transferring the feeding-bottle from a sick to a healthy child, and by drinking from the same cup used by the invalid. It has also been communicated to a surgeon who, having opened the windpipe of a patient, sucked the wound to prevent suffocation. It is also believed to have been conveyed from one house to another by a cat. There is also every reason to believe that the contagious principle is also given off in the breath of persons suffering from diphtheria; which may account for the fact of milk kept in the sick-room becoming so tainted by the vitiated air as to convey the disease. The contagious principle is likewise probably contained in the other excretions, as from the nose, or from the bowels. Thus, the disease may spread to any inmates of an infected house; but there is always much more danger in the case of those who are brought into close contact with a patient with diphtheria, who may inhale the breath of the patient, or who are liable to have the morbid products coughed out upon them (*vide* p. 186). It appears from experience that after exposure to infection the malady may come on in thirty-six hours, or be deferred as long as three weeks; but five or six days after exposure is the usual period; it further

seems that a person may communicate the disease six weeks after convalescence.

Symptoms.—There are two principal varieties of diphtheria : *one*, in which the disease commences as a common sore throat, with some pain on swallowing. *A second*, in which, without any previous sore-throat, the person is suddenly attacked with shiverings and hoarseness, quickly followed by feelings of suffocation and croupy symptoms. *Ordinarily*, the first symptoms are great depression, chilliness, nausea, and occasionally diarrhœa. Then the throat begins to feel stiff, or tender, with some difficulty of swallowing, and probably swelling of the glands about the jaw, but not so much pain as when the affection extends to the nose and air-passages. At first accompanying the sore-throat there is merely redness of the parts ; but in a variable time—from a few hours to two or three days—the characteristic exudation makes its appearance, accompanied by badly-smelling breath. This may commence at any spot where the redness has appeared, and generally does so on the tonsils, or on the back of the throat. At first only small whitish specks may be observed, which speedily extend and meet so as to form large patches, or even cover the entire surface. The thickness and colour of this deposit vary considerably in different cases. It is sometimes as soft as cream, at others almost as hard as wash-leather. The colour is usually white, grey, slightly yellow, or brownish, with a rosy-red border. If removed, a raw bleeding surface is left, which quickly becomes again covered with deposit. The exudation may spread over the mouth to the lips ; it may penetrate the nose ; or it may pass into the wind-pipe and air-passages, occasioning much increase of pain and difficulty of breathing. It has also been seen on the whites of the eyes, in the ears, and even in the female private parts, and in the lower gut (rectum). The glands

about the neck, and especially near the ear, become more swollen and tender, adding much to the distress of the patient, and there is a thin, irritating discharge from the nostrils. When the disease has fully formed there is always hoarse or *husky* cough, great difficulty in swallowing, and fever. If the disease extends into the wind-pipe, known by croupy cough, increased difficulty of breathing, and threatening suffocation, the danger is great. Under such circumstances the only thing which can save or even relieve the patient is the spontaneous separation of some of the false membrane which impedes the respiration. This sometimes takes place, and one or more hollow tubular pieces of membrane several inches long, sometimes branched, may be coughed up. This a favourable sign, although if the disease is very severe, or the patient much weakened, recovery may not occur after it. Whenever the false membrane is spit or coughed out, the breath, previously smelling badly, often becomes horribly fetid. Growing obstruction of breathing and lividity of face and lips point to a fatal termination. Hæmorrhage or bleeding from the mouth, nose, throat, or air-passages sometimes occurs, and this is a very unfavourable sign; as also are continuous vomiting, the appearance of erysipelas, or of erythema (*vide* pp. 220, 386); or of dark-coloured spots on any part of the body. During the progress of a case of diphtheria, the urine should be examined at least once daily for *albumen* (*vide* p. 101). If no albumen is found it is a favourable sign; and the reverse.

The above is the description of a severe and dangerous case of diphtheria. But sometimes the disease is much milder, and all the signs and symptoms are of less severity. The malady may decline, and the exudation separate, without extending to the mouth or air-passages. This separation may commence after two or three days, or the disease may be prolonged for a fortnight. *Secondly,*

diphtheria may be characterised from the very commencement by great depression and debility. In such cases the face and skin generally assume a dirty yellowish tint, and the surface feels hot, although the temperature, as tested by the thermometer (*vide* p. 34) may not be very high. The pulse is frequent, small, weak, and irregular, and the heart's action is feeble. The tongue soon becomes dry and brown, and 'blacks' (*sordes*) form on the teeth; the general condition resembling the later stages of *typhoid fever* (*vide* p. 242). Or, *thirdly*, as previously mentioned, the disease may set in suddenly, the air-passages being first affected, with little or no sore-throat, the attack then very much resembling croup (*vide* p. 154), when it has been called *diphtheritic croup*.

Although diphtheria and croup are undoubtedly allied diseases, there are points of difference. A usual distinction is the formation of the membrane of diphtheria over the tonsils and in front of the windpipe, while in croup the membrane forms inside the windpipe. Diphtheria is contagious, and is therefore the local manifestation of a special organism, while croup is not contagious, being the local results of cold. Diphtheria is infectious, by direct contact of the expectoration of the sick with a healthy mucous surface, or by emanations from an affected person, as is evidenced by the manner in which it often spreads in a family. On the other hand, a child affected with croup lying in a confined room (as so often seen among the poorer classes) does not give it to other children, even although in the same apartment; while under such circumstances diphtheria spreads. Diphtheria often occurs to adults, croup seldom to adults. Diphtheria prevails at all seasons and during all kinds of weather—sometimes as an epidemic, and then often coincident with scarlet fever; but always more or less connected with, or influenced by, the effects of sewage emanations or imperfect drainage. Croup is most frequent during cold moist weather, especially during the prevalence of easterly or north-easterly winds.

Diphtheria is characterised by much swelling of the glands about the jaw, and much pain in swallowing, symptoms not usually accompanying croup. The 'husky' cough of diphtheria is not of the 'brassy' character of that of croup. In diphtheria albumen is generally found in the urine, in croup not. Diphtheria is often attended or followed by paralysis, croup not. Diphtheria may attack other parts, as the nose, mouth, and in females the privates, which croup never does. In one feature there is

similarity—viz. the presence near or in the air-passages of the material formed in both diseases, giving rise to very similar symptoms, as regards the sound of voice, breathing, and suffocating paroxysms.

Diphtheria in the early stage may be mistaken for *scarlatina*, which often commences with throat affection, but the redness of the throat is not so bright and vivid as that of scarlet fever, while the early occurrence of white deposit on the throat, and the absence of rash on the second day, are distinguishing. (*Vide Scarlatina*, p. 375)

Treatment.—The patient should be put in a well-ventilated room free from draughts, and the temperature should be maintained equable, and the air moist, as mentioned under *Bronchitis* (p. 104). Complete quiet and rest should be observed, and, as there is often great prostration, the patient's strength must be stored from the first. Unfortunately there is no drug which can be looked upon as a specific, nor any means by which the disease can be cast off when it has once attacked an individual. But much may be done, even in severe cases, if the disease is recognised sufficiently early. In the first place, if it is found that the room or house is contaminated by defective sewage or drainage, the patient should, if possible, be removed. In the mildest form of diphtheria it is enough to protect the patient from cold; to open the bowels (Recipe 1, 2); to administer some saline, as citrate of magnesia (*vide* p. 15); to allow a good quantity of beef-tea and milk; and to employ such soothing local remedies in the form of fomentation, dry or wet (Recipes 80, 82), to the throat, as may afford most relief; with the very frequent use of alum gargle (Recipe 100), or, if available, *compressed tablets* of chlorate of potash may be sucked. In more severe cases the patient should also inhale the steam from hot water and vinegar three or four times daily, and strong alum solution (alum 3 drachms, water 1 ounce) should be applied to the inside of the throat every six hours, with a

piece of stick to which a bit of lint or sponge has been firmly fixed, using fresh lint or sponge on every occasion. The solution should be thoroughly applied with a 'dabbing' motion to all the diseased portion of the throat which can be seen, but not so forcibly as to rub off the deposit, or cause bleeding. Or it may be introduced by means of an ordinary scent atomiser, if such an instrument is at hand. Or four or five grains of powdered alum may be blown into the throat from quills or a glass tube (long, to prevent infection), a method of application sometimes least irksome to the sick person. If the nose is affected, alum solution should be injected, or powdered alum sniffed into the nostrils. If old enough, the patient should also gargle frequently with Recipe 100. As medicine, quinine (Recipe 66) may be given every two hours. In severe cases, although beef-tea, chicken broth, milk diluted with a third part of lime-water (Recipe 25), and eggs may be used, almost *ad libitum*; no solid food should be allowed; and the patient must be fed slowly, as the act of swallowing is always difficult, and sometimes dangerous. In any case, if agreeable to the patient, ice may be given to suck. When diphtheria attacks an infant which is being suckled, the infant should be weaned, as the disease may be communicated to the woman's breasts. Weaning may be practised with the greater confidence, as probably the infant will not be able to continue to take the breast.

In the latter stages of the complaint, or in those cases showing great debility from the first, wine or brandy beaten up with eggs may be freely given, to the extent, for an adult, of a bottle of the first, or eight ounces of the latter, in the twenty-four hours. Good port wine and iced champagne are the most valuable. If a patient cannot or will not swallow, beef-tea, mixed with a little brandy, should be administered as injections; or, if practicable, *digested enemata* should be used (*vide Appendix, Injections*).

[If obtainable, instead of the strong alum solution mentioned above as an application to the inside of the throat, use a strong solution of nitrate of silver. Strength, 10 grains of nitrate of silver to 1 drachm of distilled water. Or, if an atomizer is at hand, use the following Recipe: Liquefied carbolic acid, 30 drops; chlorate of potassium, 3 drachms; glycerine, 3 ounces; distilled water, 5 ounces. Also give every two hours, alternately with the quinine mixture, the following Recipe: Tincture of iron, 2 drachms; chlorate of potassium, 1 drachm; distilled water, 8 ounces. Dose, for an adult, two table-spoonfuls. For children, according to table of proportions at p. 6.]

Diphtheria is a disease requiring skilled professional watching, and particularly so when the air-passages become affected. The question of the propriety of an operation—opening the windpipe or larynx—then presents. As such an operation almost always affords temporary relief and prolongation of life, and as cases do sometimes recover after operation, from an apparently almost hopeless state, it is generally considered advisable to afford the patient the chance. There are, however, conditions, such as extreme debility, or extensive implication of the lower parts of the air-passages, when an operation would not be advisable.

In all cases of illness, when diphtheria is prevalent, it is desirable to examine the throat, as occasionally, when there was no previous suspicion, a spot of diphtheritic deposit will be found. This should immediately be destroyed with strong solution of alum, or, if available, with nitrate of silver, which will very probably prevent the spread of the disease.

As soon as the patient can be moved with safety, change of air from the infected locality is most desirable. Convalescence is often slow, and may be retarded by the presence of *albuminuria* (*vide* p. 100), or by *inflammation of the lungs* (*vide* p. 325), or by *chorea* (*vide* p. 422), or by *paralysis* of different parts (*vide* p. 345). Sudden deaths have occurred after diphtheria, owing, as is supposed, to paralysis of the heart, happening in some yet unexplained manner, as the

result of the disease. To guard against such sequelæ, avoidance of chill, generous diet, and good sanitary conditions must be enforced.

All through the disease the greatest care must be taken to prevent infection, and the rules given in the Appendix under 'Disinfection' (vide also Index) regarding the disinfection of the apartment, of the utensils, of the clothing, of the discharges, and of the hands of attendants, should be scrupulously carried out. Attendants should studiously avoid inhaling the breath of, or the contact of the expectoration of, the patient with their own lips or mouth, as may accidentally occur. This risk may be greatly diminished by the attendants wearing a respirator, composed of a layer of cotton-wool between two folds of muslin: to be burned after use. Rags, which may be immediately burnt, should be used instead of pocket-handkerchiefs or towels. No article of food, especially milk, should be allowed to remain in the sick-chamber, as it may become contaminated, and so convey the disease.

Experience has shown that the germs of the disease will sometimes cling with remarkable tenacity to a house or apartment in which a patient has suffered, even although every care has been taken to purify and cleanse. Numerous instances have occurred of persons suffering from diphtheria after occupying a room in which a patient had been ill many weeks, and in some cases months, previously. A fortnight at least should be devoted to sanitary measures and ventilation before a room is again occupied.

DROPSY.—Dropsy is generally not a disease *per se*, but is a consequence and symptom of other diseases. Dropsy consists of swelling caused by the escape of the watery portion of the blood through the coats of the veins into the surrounding tissues. This is produced by some impediment to the circulation of the blood causing stagnation of that fluid, as, for example, swelling, or in reality

dropsy of the leg, may be caused by a tight ligature, as a garter, if allowed to remain sufficiently long. The most usual positions of dropsy are the lower extremities and the belly. The malady is recognised when external by the parts affected 'pitting' on pressure: that is, if pressed upon by the fingers depressions are left which gradually fill up.

Dropsy is generally connected with, and traceable to, one or other of the following conditions: Exposure to cold. Disease of the kidneys. Disease of the heart or lungs. Disease of the liver or spleen. Anæmia. Disorders of the *menses* or 'monthly flow' of females.

DROPSY FROM EXPOSURE TO COLD generally occurs suddenly, after exposure to cold and damp, or from sitting in a draught of cold air while the body is freely perspiring. The action of the skin is suddenly checked, and watery fluid becomes lodged in the loose tissues beneath, forming the condition known as *Anasarca*. Often also the *kidneys* are implicated, and the attack may be the prelude to *Bright's disease*. *Anasarca* may also occur after scarlet fever, during which malady the action of the skin is impeded. Should sudden general dropsy from cold or from checked perspiration present, the patient should be kept warm and should take Recipe 2, to act on the bowels and produce watery stools; Dover's powder in 5-grain doses three times in the twenty-four hours to act on the skin, and half-drachm doses of sweet spirits of nitre to increase the flow of urine. Warm baths will also be generally advisable. *Dropsy following scarlet fever* should be treated as recommended above, excepting that nitre should *not* be given.

DROPSY FROM DISEASE OF THE KIDNEYS begins generally in the loose structure of the eyelids and privates, the feet and legs quickly becoming affected.

DROPSY FROM DISEASE OF THE HEART OR LUNGS com-

mences in the legs and arms, often at the same time, and gradually involves the whole body.

DROPSY FROM LIVER OR SPLEEN DISEASE first affects the belly, which swells, and may be felt to contain fluid, a condition called *ascites*.

DROPSY FROM ANÆMIA is rarely extensive, and does not affect the interior of the body. It is usually confined to the feet, ankles, and eyelids (*vide* p. 49).

DROPSY ACCOMPANYING DISORDERS OF THE MENSES is not indicative of dangerous disease, as are most other varieties, and is generally confined to the lower extremities, but may appear also in the hands and face, which become more swollen towards evening (*vide* p. 468).

Dropsy is therefore due in the great majority of instances to some organic internal disease, meaning thereby some disease involving change of structure in the parts implicated, and which sooner or later will prove fatal. The treatment of dropsy must therefore be that of those diseases of which it is a prominent symptom.

DROPSY, OVARIAN.—Ovarian dropsy is a different disease from the foregoing. It only occurs in the female sex, and consists in the gradual distension of the parts called the ‘ovaries’ by fluid. The ‘ovaries’ being situated on each side, rather above the female groins, the disease presents itself as a tumour or swelling on one or other side in that position. But if both ovaries are affected, the tumour appears central; or, in the later stages of the malady, one tumour extends over the whole of the bowels. The strength and general health of the patient remain long unimpaired, sometimes for years, until the bulk and pressure of the swelling on neighbouring parts bring on difficulty of breathing and swelling of the feet. In some cases there are periodical attacks of pain and tenderness in the tumour, and also cessation of the monthly discharges; but neither of these symptoms is constantly met

with. For this malady no medicinal treatment is of any service. Wearing an elastic abdominal belt often affords much relief and support, but the only chance of cure is surgical operation.

DRUNKEN FITS.—When a person is in a drunken fit, or, as it is called, ‘dead drunk,’ there may be doubt as to the cause of the insensibility. Persons suffering from apoplexy have been frequently locked up as drunk, and the distinguishing features are given at p. 56. If a person is insensible from drink the following rules should be followed:—Place the patient on his *right side*, with head slightly raised. Do not allow him to lie on his back or on his face. Remove all constrictions about the neck and the upper part of the chest. Induce vomiting by tickling the throat with a feather. If able to swallow, give lukewarm water to drink. Apply a mustard poultice to the chest, and as soon as the patient begins to recover give some strong coffee. Unless taken in poisonous doses, the person will in a few hours sleep off the effects of the alcohol. But if taken in poisonous quantities, the condition nearly approaches to apoplexy, and the stomach-pump may be required.

DYSENTERY.—This disease is most prevalent in India and other tropical climates. A long-continued high temperature predisposes to the disease, which is often excited at the changing period from the hot weather into the damper season of the monsoon. The principal causes of dysentery are a tropical climate; exposure to sudden changes of atmosphere; imprudent change of clothing, particularly of that worn over the bowels; drinking water containing mineral or vegetable impurities; irregularities in diet; famine and want; lying on the damp ground; residence in ill-ventilated, imperfectly-drained, and badly-located habitations; and a scorbutic condition of the system from the want of fresh vegetables. Many also believe

that exposure to malaria will excite dysentery. Pregnant women in India are especially liable to dysentery, which generally causes miscarriage.

The first *symptoms* of dysentery are feelings of griping about the navel, often accompanied by nausea. Very frequently this is first felt after incautious exposure to night air, particularly during sleep, and more especially if the wind has been suffered to play on the bowels, even if well covered. Next there are irregular loose discharges from the bowels, which may continue one, two, or three days, forming the *premonitory diarrhoea* of dysentery. Then the irregular griping pains gradually become cutting and shooting, with great heat about the fundament, and frequent straining and purging. Matters now voided consist of liquid fæces streaked or mixed with white mucus and blood. As the disease becomes more severe, shreds or large flakes resembling the washings of raw meat often pass away, and the stools have a peculiarly offensive odour. The desire to stool is generally most urgent during the night; in some instances it is incessant, in others there may be ten or twenty calls in the twenty-four hours. There is frequent desire to make water. The amount of attending fever is variable, in some instances hardly exciting attention, in others evidenced by a flushed face, dry skin, hard quick pulse, and furred tongue. Pressure over the bowel is painful, although the parts are not so tender as when inflammation of the bowels is present. Absence of pain or tenderness of the bowels, and slimy bloody stools unmixed with fæcal matter, indicate that the lowest part of the intestines (the rectum) is chiefly implicated. A cadaverous smell, anxiety of countenance, feeble pulse, hiccough, and involuntary motions pronounce the case hopeless.

In every case of dysentery there is danger of the liver becoming affected, and of liver abscess forming as a

secondary consequence of the dysentery. This renders every case more serious, and shows the necessity of prompt, careful, and efficacious remedial measures.

Treatment.—In the mildest form of the affection, when griping pains are complained of at intervals, followed or accompanied by the discharge of slightly bloody or slimy stools, fomentations or the turpentine stupe (Recipes 80 and 108), rest in the horizontal posture, and 5 grains of Dover's powder three times a day will frequently effect a cure. The diet should be of the plainest description, consisting of broths and farinaceous gruels without any solid material.

In the more acute forms of dysentery, when the calls to stool are frequent, the pain cutting, the abdomen tender, and the patient feverish, give immediately 40 drops of chlorodyne in a table-spoonful of water; then, if the patient is not a pregnant female, fifteen or twenty minutes afterwards give 30 grains of powdered ipecacuanha in a wine-glassful of water, and then apply a mustard poultice over the pit of the stomach (not the bowels) for twenty minutes. The patient should lie down and remain perfectly quiet, and refrain from drinking, but if thirsty he may suck ice. This treatment will probably cause great nausea and depression; but the after-result is usually free action of the skin, subsidence of griping, and re-appearance of natural stools. Often one dose of ipecacuanha checks the disease. But if it returns, and if vomiting did not occur in a very violent manner from the ipecacuanha, and if the person was not long or greatly depressed, the same medicines should be again given in about eight hours afterwards, and repeated at such intervals during three days, care being taken to allow of a sufficient time between the doses to admit of the patient taking and digesting some fluid nourishment. But the vomiting and depression produced by the large doses of ipecacuanha are sometimes

so great that the treatment cannot be continued. In such cases, or when, as sometimes happens, ipecacuanha administered as above fails to prove beneficial, it will be advisable to give 1 grain of ipecacuanha, 5 of Dover's powder, and 3 of quinine every four hours; the quinine being especially required if the patient has been in a malarious district, or if there is accompanying fever of the intermittent or remittent form (*vide* pp. 252, 258). It will also be desirable to use soap-and-water injections twice daily (Recipe 104), in which 30 grains of ipecacuanha powder should be placed, when the medicine is not well borne by the mouth.

If the patient is a pregnant female, and especially if also weak, in the absence of medical advice, the treatment by large doses of ipecacuanha is *not* recommended, as vomiting if so excited may bring on miscarriage. The treatment last mentioned is preferable.

In all cases of dysentery the recumbent posture should be insisted upon, and the patient should be instructed to give way as little as possible to the frequent inclinations to stool. In any case it will always be right to apply warm applications to the bowels, as fomentations, hot bran, linseed meal, or rice-flour poultices. The patient should be kept in a well-ventilated apartment. When stools are passed they should be *removed immediately*, and some disinfecting agent should be placed in the pan and also used in the room (*vide Appendix*, No. 126). The food should invariably be of the simplest kind, as good broth or beef-tea (without pepper, which may irritate the bowels), Valentine's meat juice, sago, corn-flour, arrow-root, milk and jellies. If the accompanying fever is slight, a small quantity of port wine and water may be allowed. Soda-water or pure plain water may be given in moderation, but neither drink nor food should be given iced, or even quite cold.

During recovery the appetite often increases before the digestive organs recover their tone ; therefore caution must be used, so that not more than a very moderate quantity of food is taken, or a severe relapse may be the consequence.

[If the measures recommended are not successful after four days, pills composed of ipecacuanha, blue pill, and opium (Recipe 24) should be procured, one of which should be given every three hours. The pill's should be continued until a metallic taste or slight soreness of the gums is experienced, when they should be stopped, and Dover's powder, quinine, and ipecacuanha, as recommended in the large type, given instead. The unnecessary use of blue pill should, however, be avoided. It is only advised on the failure of other measures as above noted. Laudanum should also be procured, 30 drops of which should be added to each warm-water injection, recommended in the large type. A good medicinal tonic during convalescence is Recipe 69.]

DYSENTERY, CHRONIC.—Chronic dysentery may commence as such ; that is, a minor degree of dysentery than that described above may occur, and, without assuming any violent form, destroy the health of the patient. But chronic dysentery more frequently results as a sequel of the acute form. It often happens after a severe attack of dysentery that tenderness remains in some parts of the bowels, while the stools are occasionally slimy and bloody, alternating with constipation for a day or so ; and there is considerable and increasing debility, with perhaps a tender scorbutic condition of the gums. Under such circumstances, the repeated application of mustard poultices or mustard leaves over the tender part is advisable. The bowels should be regulated by small doses of castor oil, constipation being strictly guarded against. When the bowels are *not* constipated, astringent medicines of various descriptions should be employed. In the absence of the remedies mentioned in the small type below, Recipe 17 may be taken at night, and Recipe 42 three times a day. If the ipecacuanha in Recipe 17

causes too much nausea or sickness, it may be omitted. If there is *alternate* looseness and constipation, it will be better to trust to diet and castor-oil, and not to take astringents; but in any case, both the decoction and syrup of the Indian bael fruit (*vide* p. 22) may always be tried, as the bael possesses both astringent and slightly aperient properties. Or, the bael not proving efficacious, decoction of pomegranate may be used, made with either milk or water (*vide* p. 26). If the patient has been in a locality where fresh vegetables were scarce, he should have lime-juice or pulp of fresh grapes daily, even although no indications of scurvy are apparent. During chronic dysentery it is necessary to examine the gums frequently, and if they are found tender, spongy, swollen, or inclined to bleed, thus showing evidence of a scorbutic taint in the system, lime-juice is still more necessary (*vide Scurvy*, p. 380). This should not be neglected, scurvy with dysentery being a serious complication.

It must be noted that chronic dysentery is frequently associated with *piles*, and in some cases appears to commence from piles. When blood and mucus *follow* a discharge of faecal matters, the existence of piles is indicated; but it is often difficult to distinguish how much of the distress is to be attributed to the one condition, and how much to the other. If piles are present they must be treated (*vide* p. 347).

In all cases of chronic dysentery a flannel belt should be worn round the bowels, and the feet kept warm by woollen socks. The diet should consist chiefly of soup, broth, rice, sago, arrowroot, or flour and milk well boiled together, seasoned with sugar and spice. Generally a little port wine may also be allowed.

In bad cases a milk diet should be tried. Milk should be taken frequently in small quantities. If quickly swallowed in large quantities it forms a curdled mass in the stomach, difficult of digestion. By taking

one and a half ounce of milk every hour during the day and night, one quart would be consumed. At first it is advisable to take one quart, or even less *per diem*, gradually increasing the quantity to two or three quarts in the twenty-four hours. Not, of course, being roused from sleep to take milk, but taking some in the night if awake. But even the small quantity first mentioned should not be swallowed at once, but should be sipped very gradually. Tepid milk usually agrees best, and it is advisable that it should be previously boiled. If milk given alone does not agree, it may be tried mixed with one third of lime-water (Recipe 25); or it may be peptonised. To satisfy the patient a little good bread or sago may also be occasionally given, and exceptionally a little broth, or raw-meat tea. But the less of anything besides milk which is taken the more likely is the treatment to be successful. At first the patient may probably complain of not being able to take or digest the milk, or even of feeling weaker. But, as a rule, if he perseveres he will gradually gain strength and freedom from dysentery.

[Other astringent prescriptions for chronic dysentery are Recipes 46 and 47; the first most useful if scorbutic taint exists. When there is much pain, and numerous motions, the pill as below may be used night and morning. Quinine, three grains; hydrochlorate of morphia, one quarter of a grain; to be well mixed and made into a pill with a little gum arabic.

Many cases of dysentery are, however, little benefited by medicines. If a patient with chronic dysentery is living in a malarious country, then probably no treatment will prove of benefit until he is removed from the influence of such an atmosphere. In such cases a thorough and prolonged change of climate, as to Europe, affords the best chance of recovery. But under such circumstances great care must be taken to escape cold and chill, while imprudence in diet must be strictly avoided. A voyage on the Indian seas, as sometimes recommended, is not likely to benefit a person with confirmed chronic dysentery. When it is recollected that a person transported to Europe may be years before thoroughly recovering, and that he may be subject to aggravation from the slightest imprudence in diet, or from the slightest exposure or fatigue, it is evident that sea voyages in the tropics are not calculated to cure a malady for which rest, quiet, well-ventilated sleeping apartments, good sick-cookery, and freedom from exposure to vicissitudes of temperature, are essential.]

DYSENTERY IN CHILDREN may occur suddenly, without any previous warning, or it may be a sequel to diarrhoea (*vide* p. 173). It often happens that an infant has been suffering from diarrhoea for several days, passing green motions, or motions like frog spawn, when a sudden

change occurs. The griping increases, there is great straining, and mucus and blood are found in the stools. The diarrhoea has passed into dysentery, and the character of the case is more serious. However commencing, dysentery in children is marked by the same symptoms, as the passing of mucus, slime, and blood, and by the pain and straining characterising the affection in adults. From the commencement some degree of fever generally prevails. *If constipation has preceded the attack*, it will be best to commence the treatment with a small dose of castor-oil; *but if the child has not been previously costive*, no laxative medicine should be given. If constipation has previously prevailed, temporary relief will follow the castor-oil, which is the time to commence the specific treatment. But as children do not usually bear large doses of ipecacuanha well by the mouth, the following treatment is recommended. If the child is not more than six months old, a quarter of a grain of ipecacuanha powder should be given every three or four hours. If the child is more than six months old, 1 grain of ipecacuanha may be given; if more than one year old, 2 grains. At the same time, in severe cases, if the child is more than six months old, 5 grains of ipecacuanha powder; and if more than one year old, 10 grains of the powder, mixed with an ounce of thin *congé*, should be used as an injection. (*For the manner of giving injections, vide Appendix.*) An endeavour should be made to retain the injection by pressure with a napkin for ten minutes or longer, until the child seems quiet and unlikely to void it. If the symptoms persist after two days, Dover's powder should be given night and morning in the proportion of 1 grain for a child above six months old, and $1\frac{1}{2}$ grain for a child above one year old, increasing the dose by a quarter of a grain for each year of age. Warm linseed-meal or bran poultices, or, if available, spongio-piline warmed with hot

water, or the india-rubber hot-water bag (*vide Appendix No. 80*), should be frequently applied to the bowels, and during the intervals the bowels should be kept warm by a flannel binder. If the child has much straining, starch injection may be used (*Recipe 104*). If the teeth are causing irritation, the gums must be lanced; and if worms are present, *santonin* (*vide p. 486*) may be given, but without any purgative. If the infant is suckling, change of the nurse may perhaps be advisable; or, this not being practicable, or if the infant is being fed by hand, raw-meat soup, or weak chicken broth, may be substituted, as recommended for *diarrhœa* (*vide p. 175*). For older children the food should consist of sago, arrowroot, bread and milk, chicken or mutton broth, and tea. The bael fruit is sometimes beneficial in obstinate cases. The dose of the decoction of bael made as detailed at p. 22 is a tea-spoonful for a child one year old; of the syrup of bael made as there mentioned, a little less. When the stools become more natural, 2-, 3-, or 4-minim doses of *chlorodyne*, according to the age of the child (*vide p. 12*), may be substituted for other medicines, to moderate any remaining looseness. When this ceases 1- or 2-grain doses of *quinine* will be desirable for some days. Great care should be taken for some time to examine the stools of the child, in order to discover if undigested morsels of food pass; and if so, the diet should be altered.

[The above means not proving successful, *Recipes 48 and 49* should be obtained and tried in succession; the first being most useful if there is acidity of the stomach.]

DYSPEPSIA, in one or other of its numerous forms, is very common in India, sometimes occurring as a simple dyspepsia unconnected with any other malady; at other times as the result of temporary impediment in the action of the stomach, liver, or bowels; at other times the consequence of permanent disease of these or other organs.

Dyspepsia is, therefore, in various instances a symptom of other maladies, and not the primary disease.

Before dyspepsia can be properly understood it is necessary to have some idea of the progress of digestion and of the organs concerned, and the accompanying wood-cut shows the latter.

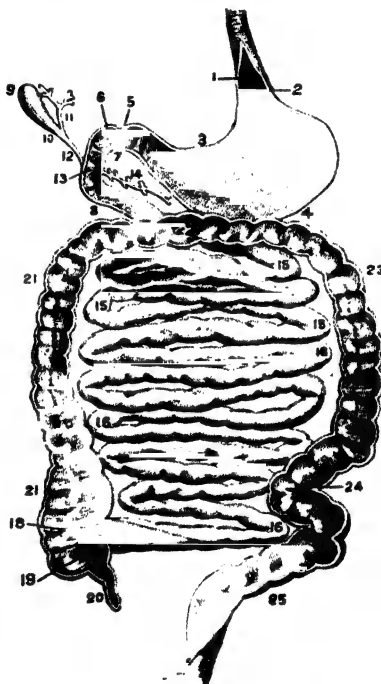


DIAGRAM OF THE DIGESTIVE TUBE

- | | |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1. The Gullet. | 14. Duct of the Pancreas, opening into the Duodenum close to where the Bile Duct opens. |
| 2. The Upper or Cardiac Orifice, or Entrance to the Stomach. | 15. 15. Jejunum) small Intestines. |
| 3, 4. The Upper and Lower Borders of the Stomach. | 16. 16. Ileum) |
| 5. The Lower or Pyloric Orifice, or Outlet from the Stomach. | 17. Ileum opening into Great Intestine. |
| 6, 7, 8. The Upper, Middle, and Lower Portions of the Duodenum. | 18. Ileo-cæcal Valve. |
| 9. Gall Bladder. | 19. Cæcum. |
| 10. Bile Duct leading to the Gall | 20. Vermiform . |
| 11. Bile Duct leading from the Liver. | 21, 21. Ascending |
| 12. Common Duct, formed by junction of two preceding. | 22. Transverse Colon. |
| 13. Its aperture in the Duodenum. | 23. Sigmoid Flexure of Colon. |
| | 24. Sigmoid Flexure of Colon. |
| | 25. Rectum. |

The following is a brief *résumé* of the process of digestion:—

Food is masticated by the teeth, and mixed with the saliva, which has the power of converting starch into sugar. The food is then conveyed by swallowing through the gullet into the stomach, where it is brought into contact with the gastric juice. This gastric juice, secreted by the coats of the stomach, is composed of pepsin and acid, and it possesses the power of acting on nitrogenous food, such as flesh, fish, eggs, cheese, butter, wheat, flour, &c. The mass of food is also exposed to a mechanical action by the stomach alternately contracting and expanding. Certain chemical action also takes place. By these means the food is converted into a pulpy mass called *chyme*, which, by the contraction of the stomach, is pressed through its *pyloric* orifice into the next part of the intestinal tube, known as the *duodenum*. Should indigestible food be present, it either causes the stomach to reverse its action, when vomiting ensues, or, overcoming the obstruction the *duodenum* presents to the passage of undigested morsels, it slips into the bowels and becomes a source of future irritation. The *chyme*, while passing through the *duodenum*, now becomes mixed with bile from the liver, and with pancreatic juice from the pancreas, the ducts from both of which organs open into the *duodenum*. The bile has the property of assisting generally in the digestion of food, of preventing fermentative changes, and it also acts as a natural aperient. The pancreatic juice has the property of disposing of fatty matters. After being exposed to the action of the bile and pancreatic juice, the food or *chyme* becomes changed in appearance and characteristics, receiving the name of *chyle*. It now commences its passage through the remaining 24 feet of the intestinal tube. In the small intestines it meets with secretions from the glands they are furnished with, by which the process of digestion is completed. As the process is completed the *chyle* is taken up (or absorbed) by the microscopical mouths of numerous small vessels spread on the surface of the bowels and known as *lacteals*. These converge, forming the *thoracic duct*, which, running in front of the spine, opens into the subclavian vein, where the chyle mingles with the blood. Watery matters, or substances soluble in water, are, however, absorbed directly into the blood by the blood-vessels of the stomach and intestines. Thus while passing through the small intestines the digestion of the food is completed, and all fit for the wants of the body is absorbed from the intestines into the system. In the healthy state no fermentation takes place in either the stomach or small intestines. The food which escapes digestion and absorption, or which is unfit for absorption, together with such items as pieces of bone, husks, woody fibres of vegetables, &c., now passes through the cæcal valve into the large intestines or colon. Here it meets with faecal matter thrown

out by the minute glands of the colon. This excretion is characterised by disagreeable, but not necessarily putrid, odours and gases, and consists of material removed in the renovation of the body. From the colon the fecal matter passes into the rectum to await expulsion from the body.

DYSPEPSIA is best considered under the heads *Accidental or Temporary*, and *Habitual or Permanent* dyspepsia.

ACCIDENTAL OR TEMPORARY DYSPEPSIA is generally caused by errors in diet, as when some irritating, over-rich or 'high' material is taken. It may occur from eating hurriedly. Also from exposure to chill, from unaccustomed exertion, such as riding in a rough vehicle, from bathing, or from severe mental exertion immediately after a full meal.

Symptoms.—Accidental dyspepsia may be of the most trivial character, or more severe. In its milder form it is characterised by sores on the tongue or in the mouth, or by flushing of the face (*vide* p. 274); or by flatulence (*vide* p. 273), or by slight eructations after meals, sometimes tasteless, at others having the taste or odour of the food taken; or by acidity (*vide* p. 45); or by slight headache; and perhaps by a little diarrhoea, when all is well again. There may also be heartburn (*vide* p. 299). But an attack of accidental dyspepsia may be accompanied by giddiness, faintness, nausea, vomiting first of the contents of the stomach, and then of sour, bilious material, with constipation in the first instance, succeeded by desire to stool. Or there may be an attack of colic (*vide* p. 131). Sometimes there is a sudden eruption of nettle-rash (*vide* p. 387). Or accidental dyspepsia, instead of causing any of the symptoms yet noted, may result in sick-headache (*vide* p. 291).

Treatment.—The treatment of the symptoms first mentioned, viz., sores of the tongue and mouth, flushings, flatulence, acidity, heartburn, are mentioned under such headings. When there is giddiness, nausea, or vomiting,

an emetic of mustard-water (Recipe 54) usually affords relief. When nettle-rash, colic, or sick-headache occurs, the treatment given under those heads should be adopted.

HABITUAL OR PERMANENT DYSPEPSIA results from different causes to those producing *accidental or temporary dyspepsia*, although the causes of the latter will aggravate habitual dyspepsia. Habitual dyspepsia is not, like accidental dyspepsia, the consequence of occasional errors of diet, or of other occasional causes which have been named. Habitual dyspepsia is either the result of constitutional weak digestion, or, more frequently, the result of a continued course of high and improper living, especially if accompanied by sedentary occupations, or by sitting on low chairs, which compresses the bowels, and causes indigestion. Neglect of exercise, stooping when employed, ill-ventilated or crowded sleeping-rooms, or impure atmosphere from any cause, excite indigestion. Overstrain of the mental faculties is a fertile cause of habitual dyspepsia. Idleness, or want of a definite purpose in life, also induces it. Excessive smoking may be the cause. Costiveness is both a cause and a result. Bad teeth, rendering the person unable to masticate his food thoroughly, is a frequent cause. Fœtid secretions from bad teeth or gumboils also interferes with digestion. Tight-lacing, which interferes with the action of the liver, stomach, and bowels, often renders digestion little better than a meaningless term. In females habitual dyspepsia is often an accompaniment of womb affections (*vide* p. 467). Habitual dyspepsia may also arise from worms (*vide* p. 482). Climate also affects dyspeptics, especially when changes occur suddenly. Prolonged residence in a tropical climate causes the digestive organs to participate in the generally anæmic condition of the system induced by heat.

Symptoms of Habitual Dyspepsia.—In habitual dyspepsia the stomach, liver, and bowels are the organs chiefly in

fault. There are typical cases when the symptoms are plainly referable to one or the other of these organs. But as a general rule they are all implicated, and the symptoms which arise denote defective action of all three.

The stomach secretes an acid fluid called gastric juice (*vide* p. 199), which is the principal agent in that part of digestion which takes place in the stomach. When the coat of the stomach is continually irritated by improper food, this gastric juice may be increased, or diminished, or altered in quality, giving rise to the generation of acids and to acidity, or so-called *acid dyspepsia*. The symptoms of a minor degree of stomach or acid dyspepsia are sufficiently noted under *Acidity* (p. 45). There may also be 'stomach cough,' generally due to an enlarged *urula* (*vide* p. 444), and vomiting of tough mucus in the early morning. At first there is often a feeling as if the stomach were not large enough for a meal, or as if there were something heavy in it. The nerves of the stomach becoming more sensitive, there is pain of a tearing, dragging, gnawing, or burning character, somewhat temporarily relieved by taking food, for which there is often a craving with thirst. This craving induces people to eat and drink too much, for which they afterwards suffer. There may also be throbbing and tenderness at the pit of the stomach. Shooting pains towards back and shoulders may also be felt, leading persons to imagine the liver diseased. Or pain in the chest, with palpitation and irregular pulse, gives rise to fear of heart disease. The urine often feels hot when passed, becomes thick and cloudy, and deposits red gravel. There is also a loss of nervous or vital power, which leads to diminution of the contractile movements of the stomach necessary for the proper digestion of food. There is also necessarily derangement of the purely chemical processes through which food must pass in the stomach. All these various

conditions lead to *slow stomach digestion*, so that the food remaining in the stomach begins to ferment, when eructations having the flavour of rotten egg occur. There is then not only a gnawing pain, somewhat relieved by taking food, but also weight and distension in the stomach some time after taking food, caused by undigested food remaining in the stomach. Then there may be vomiting of this half-digested food, or if not actually vomited it rises into the throat. As a further consequence food finds its way into the intestines without having undergone the full process of stomach digestion. Here it acts as a direct irritant to the intestines, which in their turn resent its presence by altered secretions, and the process of intestinal digestion is not properly performed. Instead of digesting, the food ferments, which causes the formation of various acids and gases, giving rise to much discomfort *after* taking food, to distension of the bowels, to eructations of rotten-egg flavour, to colicky pains, to rumbling and twisting about the navel, and sometimes to irritative diarrhœa (*vide* p. 167). In this form of dyspepsia, diarrhœa is often excited by food, the person having to leave the table for the purpose of nature. Other symptoms are clamminess of the mouth, congested or sore throat, pains in different parts of the body, and weariness. The tongue is red at the tip and edges, with a foul streak in the middle; or if from bad teeth the person eats on one side of the mouth, the foul streak will be more evident on the opposite side. The urine often presents an iridescent film on the surface and deposit sediment.

The stomach and bowels cannot be thus affected without the liver becoming implicated, especially if the original cause is prolonged high and improper living. The bile-duct, which opens into that part of the intestines called the duodenum (*vide* p. 198), partakes of the general irritation and congestion, which passes up the short duct into

the liver. The result is alteration in the secretion of bile, which is sometimes deficient and sometimes in excess. As bile is the natural aperient, when it is deficient the bowels become torpid and constipation occurs, while the stools passed are light-coloured. But if bile is secreted in excess, it causes diarrhoea of a bilious character, with griping pain and burning at the fundament; thus adding to the irritative diarrhoea which may be caused, as already mentioned (*vide* p. 203), by partially digested food. Also, as bile exercises an anti-fermentative power, its deficiency leads to increase of fermentation of food, and hence to more *flatus* and colicky pains. Lastly, as bile acts generally in the promotion of digestion, any alteration in its quality or quantity renders the food unfit for absorption from the intestines, and hence to weakness and debility of the person. When the liver is thus implicated there is usually a sallow appearance, due to the retention of the elements of bile in the blood. When dyspepsia of this description becomes very confirmed, the glands at the back of the tongue become enlarged, looking like small warts.

The symptoms of habitual dyspepsia occurring in weakly persons differ somewhat, and have been described as *flatulent* or *atonic dyspepsia*. Flatulence, as already noted, is an ordinary symptom of dyspepsia, but it is sometimes the principal symptom, especially in weakly, badly fed females. The subject of flatulent or atonic dyspepsia is usually nervous, often impressed with the existence of some serious malady, and may become hypochondriacal. If a female, she generally complains of pain in the left side. The urine is usually acid, and may deposit dumb-bell crystals (*vide Oxaluria*, p. 341).

Occasional symptoms occur which have not yet been noted. One is 'water-brash' or *pyrosis*, which is frequently seen as an accompaniment of flatulent or atonic dyspepsia. The affection is characterised by a burning sensation at the pit of the stomach, and a sense of constriction,

as if the stomach were drawn towards the back, followed by the eructation of a quantity of thin watery fluid, which is frequently tasteless, but sometimes intensely sour, and often described by the patient as being cold. It occurs in paroxysms, which usually come on when the stomach is empty. After the discharge of the fluid the pain lessens and gradually disappears. *Water-brash* seems to be due in a great measure to indigestible food; but there is reason to believe that when it forms a symptom of stomach dyspepsia, it is an effort of nature to dilute and overcome the acidity of that organ.

Other occasional symptoms of dyspepsia are eruptions on the lips (*vide Herpes*, p. 395); inflamed eyelids or stye (p. 222); sudden agonising pain or cramps in the stomach; a trembling sensation commencing at the stomach and passing over the whole body; a feeling that one or several limbs are of an enormous size; 'fidgets,' or an uncontrollable tendency to shake the lower limbs; palpitation of the heart, or attacks resembling *angina pectoris* (p. 208). Dyspepsia is also intimately connected with various other maladies, the principal of which are gout, asthma, constipation, gravel, diabetes.

Treatment.—The treatment of dyspepsia is more *dietetic and hygienic* than medicinal. The quantity of food which can be dissolved by the secretions of the stomach and intestines being limited, this quantity cannot be exceeded with impunity, and moderation is therefore the first principle. Persons affected with indigestion should eat slowly. The meals should not succeed too rapidly. The stomach should have time to perform one task before another is imposed on it. Six hours may be mentioned as an appropriate time which should intervene between any two meals. Nothing should be taken between meals. No great or prolonged exertion, either mental or physical, should be undertaken immediately before or after food. The food best suited for dyspeptics is a mixture of well-cooked animal and vegetable food, which is more easily digested than a large proportion of either kind, or than one or the other taken exclusively. Often it is desirable to avoid potatoes, puddings, pastry, sweetmeats, fruit, sugar, and even bread if not toasted. It is well known how readily sugar, and food containing sugar or starch,

run into fermentation, and it should never be lost sight of that sugar taken with food or drink furnishes most of the acidity and gases developed. Saccharin may be usefully substituted for sugar, particularly when acid flatulence is present, as saccharin does not contain the objectionable principles of sugar, while it exerts a certain antiputrefactive power. In most cases, dyspeptic persons would do well to avoid all stimulating drinks, although in some instances a little cold weak brandy-and-water, or a glass of sound sherry, or a little ale, may be taken with advantage. Large draughts of tea or other fluids are not advisable for dyspeptics; although in certain instances of what is called 'a fit of indigestion,' when some article taken will not pass through the stomach, and induces nausea and sickness, a draught of water or tea may often relieve the uneasiness. Draughts of very cold or iced water, as so frequently indulged in in India, are prolific causes of dyspeptic derangements, and so is the immoderate use of tobacco. But on all points of eating and drinking a sensible patient will be influenced by his own experience. In most varieties of dyspepsia 'drugging' should be avoided. Care, caution, and self-denial are better for dyspeptics than medicines; and each person should be aware, better than the physician can advise, what particular articles of diet will agree or will not agree with him. No diet table can be given to suit all dyspeptics, the likes, dislikes, and idiosyncracies (*vide* p. 7) of persons being so numerous. The most that can be done is to indicate what articles of food are most digestible as below.

Animal Food.—The flesh of young animals, although more tender than that of older animals, is not so easily digested. The flesh of older animals is neither tender nor digestible. Mutton and beef are more digestible than lamb and veal. Mutton is the most digestible flesh of mammals, pork the most indigestible. Ham and bacon are more digestible than pork. Venison, hare, and rabbit are fairly digestible. The liver, kidney, and heart of animals are all indigestible. Tripe, sweet-

bread, calf's fry, are digestible if not richly cooked. Cheese is indigestible. *The flesh of birds* is more digestible than that of mammals, chicken, fowl, and game being the most digestible; turkey, duck, and goose the least. Eggs lightly boiled are digestible, but not when hard-boiled. *Of fish*, whiting, sole, and pomphres are the most digestible; herring, eel, and mackerel less so; red fish least of all. Shell fish, as lobsters, crabs, prawns, shrimps, mussels, are all indigestible, the oyster being an exception. *Of vegetable food* good bread and plain biscuits, if not too new, are easily digested, and so are dry crisp toast, rusks, and tops and bottoms. Hot buttered articles are indigestible. Cooked vegetables are more digestible than green. Fruits to be digestible must be well ripened and soft naturally, or as the results of cooking. Semolina is more digestible than macaroni or vermicelli. Sago, tapioca, and arrowroot when cooked are readily digested. Asparagus, cauliflower, sea kale, tomatos, and vegetable marrow are digestible, spinach and cabbage less so. Beans, French beans, and peas are not easy to digest unless boiled a long time. Artichokes, turnips, carrots, beet-root, radishes, celery, lettuce, endive, mustard and cress, cucumber, and mushrooms, are all more or less indigestible.

The *hygienic* treatment of dyspepsia consists in preventing the pores of the skin being choked, by the use of soap baths and brushes; in taking exercise short of fatigue, but not before breakfast, especially the early breakfast of Indian life; in avoiding mental strain; in sleeping on a hair mattress with covering only sufficient to ensure proper warmth and to prevent chill; lastly, in change of climate for confirmed dyspeptics.

[With such care in diet and hygiene as indicated above, prominent symptoms may be best relieved as below. Acidity should be treated as given at p. 45. When *heartburn* is the prominent symptom, 10 grains of bicarbonate of soda, or 10 grains of prepared chalk, in a table-spoonful of water, will afford relief. Or 'compressed soda-mint tablets' may be used. There is no better remedy for *flatulence* than peppermint water; or, if flatulence is combined with pain, a tea-spoonful of sal volatile in a wineglass of camphor mixture. If the flatulence is accompanied by a 'rotten-egg' flavour, charcoal biscuits may be eaten, or a drop of creosote or of carbolic acid may be taken on sugar. *Loss of appetite* may be remedied by bitters, such as quinine, or mineral acids, or both combined (Recipes 34 and 60). *For females suffering from dyspepsia with loss of appetite*, debility, and any affection of the womb, 10-grain doses of efferevealing citrate of iron three times daily is often beneficial. *Constipation*

may be removed by laxatives, as Recipes 12 and 13; or by Carlsbad or Friedrichshall mineral waters, or by the use of brown bread, or occasionally by ripe fruit. Costiveness may also often be prevented by the plentiful employment of salt as an article of diet, and by active exercise. A favourite remedy for costiveness with dyspepsia, at hydropathic establishments, is the use of a cloth wrung out of cold water and applied to the belly. This is called an *abdominal compress*, and is worn under a bandage of mackintosh cloth, to keep the moisture from escaping. It is generally recommended to be used for two or three hours in the earlier part of the day. A tumblerful of cold water drunk at night before going to sleep, and another in the morning on rising, will relieve dyspeptic constipation in some habits; or the sulphate of soda and quinine mentioned at p. 135. When, in tropical residents sojourning in Europe, dyspepsia is attended by both constipation and debility, the mineral waters of Cheltenham, Harrogate, Tunbridge Wells, Spa, and Schwalbach are often beneficial. In *simple dyspepsia*, arising from debility of the stomach, unconnected with other maladies, when a carefully regulated diet does not relieve the sense of oppression following meals, *peppain* often does much good. Capsicum is especially useful in that dyspepsia of long residents in tropical climates which evidences itself chiefly by a *sense of fulness and distension after meals*, and the following formula may be employed: powdered capsicum, 3 grains; compound rhubarb pill, 5 grains; powdered ipecacuanha, a quarter of a grain. Make into two pills, to be taken an hour before dinner. Recipe 13 is also a good dinner pill, especially if there is tendency to constipation. *Pain, nausea, and vomiting* may be relieved by chloroform, camphor, ether, or ammonia (Recipes 39, 40). Ten or 12 drops of spirits of camphor in an effervescing draught is often an effectual remedy. *Water-brash* usually disappears under a well-regulated diet, aided by mild aperients. Ten or 12 grains of alum, taken in an ounce of water three times daily, is very beneficial. Or compound kino powder in 20-grain doses.]

EAR, DISEASES OF THE.—1. **ERUPTIONS ON THE SKIN OF THE EAR, OR BEHIND THE EAR.**—These ‘breakings-out’ usually occur to children during teething (*vide* p. 435), and the peculiar form of skin disease thus attacking the ears is generally *eczema* (*vide* p. 396). In such cases, cleanliness must be particularly attended to; otherwise, the skin affection may run into sores. Glycerine soap and water should be used daily, so that all discharge may be gently washed away. Then the treatment should be conducted as given at page 397. But often these

affections of the skin about the ears remain more or less prevalent, in spite of any treatment, until the period of teething has passed. Without treatment, and especially without attention to cleanliness, they assume a more prolonged and inveterate form.

2. DEAFNESS.—Deafness occurs in every degree, from mere dulness of perception of sound to absolute insensibility. It may depend on accumulation of wax, or on inflammation and its consequences, on polypus, or on enlarged tonsils, in which cases, if remediable, it can only be treated by the means prescribed for such conditions. In other cases deafness results from some affection of the nerve of the ear, and is called ‘nervous deafness.’ Such deafness may be caused by blows, falls, violent noises, explosions, or any kind of concussion. Thus deafness may result from rupture of the drum, caused by the sudden compression of the air against the membrane when a person dives into water. Or it may be a sequel of certain diseases believed to leave a poison in the system, as scarlet fever, measles, typhus, malarious fever. It sometimes comes on after great mental excitement, or from taking quinine in large and continuous doses. It may be a consequence of debility, and is then often accompanied by ringing, singing, hissing, or other unnatural noises in the ears. Lastly, it may be connected with disease of the brain.

Treatment.—Regard must be paid to the cause of deafness. The most generally useful local means are counter-irritants behind the ears, such as iodine paint or blisters. When deafness arises from enlarged tonsils, it is sometimes necessary to remove them by surgical operation. Deafness from simply nervous debility requires tonics and generous diet.

3. ACCUMULATION OF WAX IN THE EAR.—This often causes more or less deafness. In such cases the wax may

be seen through an ear speculum (a conical tube with bright interior which reflects light into the ear), or often with the naked eye. Sometimes wax in the ear excites a distressing cough, known as 'ear cough.' A drop or two of salad oil or of glycerine should be dropped into the ear at night, to soften the wax, and in the morning it should be gently syringed with lukewarm soapy water, which will further soften and expel the wax. A drop of salad oil should then be dropped into the ear, and cotton-wool applied to prevent cold.

Method of Examining the Ear.—If an ear speculum is not at hand, take a piece of foolscap $2\frac{1}{2}$ inches square; cut off one corner about half-way to the centre; then roll the paper in the shape of a cone, the cut corner forming the apex, and the paper being rolled only sufficiently tight to allow of the small open end of the cone being introduced into the ear. Then, seating the patient in a chair, pull the ear backwards and upwards with the left hand, and introduce the speculum with the right. This must be done gently, and not more than half an inch of the paper should be introduced. Generally the light of the sun may be thrown into the ear sufficiently for the purpose of examination, by seating the person in the sun's rays for a few moments. Otherwise, light may be reflected into the ear, either from an argand lamp at night, or from the sun by a mirror. If sunlight is used, a plane mirror is required, the concave mirror soon causing great heat.

Method of Syringing the Ear.—A bowl should be held by the patient, or by another person, so that the rim is pressed against the skin, close under the lobe of the ear. The operator should then draw the ear upwards and backwards, which tends to straighten the passage. The nozzle of the syringe should be then introduced just within the passage, pressing a little against the upper wall. The syringe should be worked gently, forcible syringing being likely to do harm. Any kind of syringe may be used, but the ear syringe has rings for the two forefingers, so that it may be more easily worked with one hand. A new syringe has been designed, so made that only the necessary length can be introduced into the passage, and which is therefore harmless in the hands of anyone.

Method of Applying a Poultice.—One bandage or handkerchief should be passed under the chin and tied on the top of the head, and another should be passed round the head and be tied on the forehead so that the knot may not be inconvenient when lying down. The two should be a pin over the ear. An instrument consisting of two saucer-

like receptacles to fit on the ears, and joined by a spring to pass over the head, has been devised for the purpose.

4. **EARACHE.**—This complaint is in reality neuralgia of the ear. Its causes are those of neuralgia generally, or it occurs from blasts of cold air, or from incautious use of cold water for bathing. But it sometimes arises from a decayed tooth, and in children from cutting the teeth, or from the growth of the second set; or sometimes in adults from the passage of the wisdom teeth. Earache causes very severe pain, shooting over the head and face, increased by opening the mouth and by mastication. It is distinguished from the pain attending inflammation of the ear by the suddenness of its occurrence, by the absence of fever, and by its not being attended with ‘throbbing.’ Earache in infants is sometimes difficult to distinguish from ‘belly-ache.’ This may be known by the former being more continuous, without the intervals of freedom occurring when the bowels are affected. Also by the child putting its hand to its ear, and not drawing up its legs, as it would do from bowel-ache. If after giving an infant suitable nourishment, or a drink of water, it still keeps up a continual cry, the cause is most probably ear-ache.

Treatment.—The treatment for adults is a purgative dose (Recipes 1 and 2) followed by quinine (Recipe 66), and a small mustard poultice may be applied behind the ear. If the wisdom teeth are appearing the gums may be lanced, and carious teeth should be protected by stopping. If the pain is great, a dose of chloral (Recipe 64) may be taken at night. A bag of hot salt may also be applied to the ear, or it may be fomented with hot poppy-head water (*vide Appendix*, No. 81). A roasted onion enclosed in a muslin bag is a favourite domestic remedy, which should be applied as hot as it can be borne to the ear. In children, in addition to applications as above, if the teeth

have not all appeared, the gums may require lancing, and a senna purgative (*vide* p. 26) may also be desirable. Cold applications should be avoided. When earache occurs at regular intervals of hours or days, quinine should be given in doses proportionate to the age of the patient (*vide* p. 19).

Recipe 90 may be obtained for adults and rubbed in behind the ear.

5. INFLAMMATION OF THE EAR.—This may either attack the *external passage* (which leads from the atmosphere to the drum), or, proceeding inwards or commencing within, may attack the *internal part* of the ear (which is on the other side of the drum and contains the small bones and nerves forming the organ of hearing). *Inflammation of the external passage*, or, as it is usually called, the external ear, is attended with smarting, shooting pain, increased by motion or eating. The ear feels hot and dry, and there are shooting pains in the head. After a day or two there is a watery discharge, which in a few hours assumes a yellowish thicker character, when the pain greatly diminishes. Inflammation of the external ear is very frequent in children while teething; but as they are not able to explain the seat of pain, it may be overlooked until discharge presents. When other reasons for feverishness, restlessness, and crying of children are not present, especially if the child refuses to lie on one side, the ear should always be suspected and examined. Inflammation of the external ear often accompanies various skin diseases; it may be a sequel of any weakening illness, it may arise from cold currents of air, from too forcible syringing, or be the result of foreign bodies lodging in the ear. Dust and sand getting into the ear during an Indian dust storm may excite it. Cotton-wool placed in the ear for earache, and allowed to remain without the ear being washed, is a cause. If the inflammation arises from teething, the gums must be lanced. If from foreign

substances in the ear, they must be removed. Other measures are fomenting the ear with hot poppy-water, to relieve the pain (*vide* Recipe 81); using hot linseed-meal poultices during the intervals between the fomentations, or during the night; giving chloral at night to secure sleep; opening the bowels if necessary; and combating fever with citrate of magnesia draughts (*vide* p. 15). When discharge presents, it should be *gently* washed away twice or thrice daily by syringing with warm water, and after the syringing an astringent lotion (Recipe 97), first made slightly warm, may be carefully injected. Afterwards tonics, as quinine and iron, will be advisable (Recipe 70).

When the inflammation attacks the internal ear, it is a more serious disorder. The pain is of an acute *throbbing* character, with 'buzzing' in the ears, attended with high fever, and sometimes in children with delirium. Deafness soon occurs, from the pressure of matter forming within, and after the *throbbing* pain has continued for some hours or days, the drum of the ear bursts and matter escapes. When this happens much relief is experienced, but the internal structure of the ear is often destroyed, and permanent deafness is the consequence. Inflammation of the internal ear may present unconnected with any other malady, as the result of cold, or it is sometimes the result of extension of inflammation from the throat, or is a sequel of scarlet fever.

Treatment.—If obtainable, leeches should be applied behind the ear, to the number of one moderate-sized leech for each year of the patient's age; purgative medicines should be administered (Recipes 1, 2, for adults, and castor-oil for children); and fomentations of poppy water (Recipe 81), or, if not obtainable, hot water (Recipe 80) should be assiduously applied to the ear; but it will be best not to use a syringe except under medical advice, which, if practicable, should always be obtained.

6. **CHRONIC INFLAMMATION OF THE EAR.**—Should the acute form, as above noted, be neglected, the disease is very liable to result in *chronic* or prolonged inflammation of the external ear. This chronic form, once established, is most obstinate to treatment, and leads to increasing deafness, to polypus, and probably to perforation of the drum of the ear, and destruction of the apparatus of hearing. *Caries*, or decay of the bone in which the ear is situated, may also result, and in some instances it has led to abscess in the brain. There is a persistent discharge, accompanied by dull aching pain, and by a sense of heaviness or pressure, by a variable amount of deafness, and by a feeling often described as like ‘a drop of water in the ear,’ or by sensations of singing, knocking, or ‘surging.’ In children the disease is often very insidious in its progress, and may cause great injury before its presence is suspected. Till a discharge appears, the ear may not have been suspected as the seat of any disease, on account of the child’s inability to localise its pain, or to mention the deafness; and the child, in consequence of the deafness, may be erroneously regarded as careless or stupid. Instances, indeed, have been known when children thus affected have been punished by, for instance, a ‘box on the ear’; the blow directly causing rupture of the drum, already tender from disease. Chronic inflammation of the ear is frequently made worse by even slighter causes, such as the use of an ear-scoop, or exposure to cold or wet. Unless great cleanliness is observed, especially in India, maggots may also form in the ear.

Perforation or rupture of the drum of the ear may be ascertained by asking the patient to blow forcibly while the mouth is shut and the nostrils are firmly pressed together. If the drum is broken, air will pass through the ear, and will be recognised by the patient and heard

by the bystander. The flame of a candle held to the ear will be shaken, or even blown out.

The *treatment* of chronic inflammation of the ear consists in perfect cleanliness; daily gently syringing the ear with warm astringent lotion (Recipe 97); and counter-irritants, as a succession of small blisters, or iodine paint, applied behind the ear. The general health should also be attended to, and tonics, as quinine (Recipe 66), will be required. *But, when the disease has gone on to perforation of the drum*, syringing should not be employed. Cleanliness, and the protection of the ear by cotton-wool loosely placed in the orifice, is all that may, in the absence of professional advice, be attempted. In all cases the person should avoid exposure to cold or draughts, should be careful in well drying the ear after washing it, should wear a little cotton-wool in the orifice, and should live under the best possible hygienic conditions.

7. POLYPUS OF THE EAR.—This is a fleshy growth in the ear, springing from the lower part of the orifice or near the drum. It generally occurs after a discharge has lasted for some time, or when inflammation of the external ear has assumed the chronic form (*vide* p. 214). A polypus may be vividly red, or slightly red, or almost colourless, looking like a white grape. The consistency of the growth may vary, it sometimes being firm and solid, at others soft and easily bleeding. The presence of a polypus in the ear may be known, if, in addition to more or less deafness and discharge, the characteristic red or less coloured protrusion is seen in passage. The means of cure are extraction by forceps, which must be performed by a surgeon.

ELEPHANTIASIS.—Called also ‘Barbadoes leg,’ and ‘Tropical big leg.’ Elephantiasis generally affects the leg, and natives are often seen with a swollen leg and foot, which, from a fancied resemblance to an elephant’s limb,

has acquired the name as above. But elephantiasis may also attack other parts of the body, especially the genitals. It is most common in Western India, but Europeans are rarely affected. In typical cases the disease is ushered in by well-recognised fever, which is known as 'elephantoid fever.' With the fever the leg enlarges, and the glands in the groin are usually swollen. Attacks of fever recur at intervals, attended with additional enlargement of the part affected, the leg sometimes attaining an enormous weight and size; the feet and toes being almost hidden by the increased bulk of the leg. Sometimes there is a gradual enlargement of the leg, without any marked fever. During the progress of the disease small openings appear on the affected part, from which a milky fluid may be emitted. Sometimes the malady, particularly when it affects the privates, commences in this manner. The urine may also be milky (*vide Chyluria*, p. 129). Elephantiasis has been attributed to many causes, such as malaria, new rice, fermented toddy, a fish diet, working in muddy ground, to mosquitoes conveying a peculiar worm or *filaria* into the blood, and to inflammation of the veins and lymphatics. The treatment consists in giving tonics, as quinine, arsenic, and iron in succession (Recipes 69, 71, 75) with iodide of potassium (Recipe 21). But the disease is seldom cured by medicine, although often arrested by change of climate: the Europeans to Europe, the natives to Northern India.

EPILEPSY.—Epilepsy is often called 'The Falling Sickness,' or commonly, 'Fits.' Epileptic fits vary in character, severity, and duration. A very minor degree of epilepsy often occurs, which is spoken of as 'blanks,' 'forgets,' 'sensations,' 'absences,' or 'darknesses.' There is a momentary staggering, or peculiar sensation, or transient loss of intelligence; the person stops doing what he about for a moment, and there may be a spasm or

convulsive movement of some one limb. From such slight epileptic tendencies, to the typical seizure described below, there may be infinite modifications.

The symptoms of an epileptic fit are as follows :—After a short *warning*, consisting of perhaps a headache, or pain in the limbs, or spasms of the face or of a limb, or shivering, the patient is seized with loss of consciousness and loss of power, so that if standing he immediately falls to the ground. Or, *secondly*, he may fall without any previous warning. The fit is generally preceded by a loud cry, and consists of strong convulsive movements of the limbs and trunk, with spasms of the muscles of the face and eyes, producing distortions of the countenance. Usually, the first spasm so twists the head round that the sufferer appears to be trying to look over his shoulder. The brows are knit, the eyes fixed and staring, or turned up beneath the lids, so that only the whites can be seen. The eyeballs roll, and the pupils are dilated and insensible to light, but commencing to oscillate towards the close of the paroxysm. The face is at first pale, afterwards becoming red. The skin is cold and clammy. The hands are clenched, and the arms tossed about. The breathing is difficult, or appears arrested, as if the person were unable to breathe. The teeth are gnashed, and foam (often bloody, from the tongue being bitten) issues from the mouth. The fæces and urine are often expelled involuntarily. After the convulsions have continued from one to two, five, ten minutes, or even in exceptionally severe cases several hours, the patient becomes motionless, looks round with a bewildered expression, and generally sinks into a profound sleep. Fits, of a greater or less degree of violence, may occur almost daily, or at intervals of months, or years.

Causes.—This disease may be hereditary, may originate during teething, or it may be connected with excessive

mental or bodily excitement, or with disease of the brain. In those subject to epilepsy, the malady may be excited by debility, dissipation, fright, passion, worms, plethora, indigestion, and the stoppage of accustomed discharges, as the monthly flow of women, by the irritation caused by stumps of teeth, by a long foreskin, and by bad habits.

Epilepsy may be distinguished from hysteria by the total loss of consciousness, by the distortions of the face, by the solitary cry *preceding*, and the deep sleep *succeeding* the fit, none of which signs are characteristic of hysteria. Epilepsy may be distinguished from apoplexy by the *absence* of 'puffing' or *stertorous* breathing, and by the *presence* of the *continuous* convulsions marking epilepsy (*vide* also p. 57).

Treatment.—If the stomach is full when *warnings* are felt, a mustard emetic (Recipe 54) will sometimes stop a fit. If the stomach is not full, a draught of cold water. *During the fit*, the patient should be placed on his back with the head slightly raised. Fresh air should be admitted freely and the face should be fanned. The neck and chest should be bared, cravats, stays, and all tight strings or garments about the body being loosed. The patient must be prevented injuring himself by the limbs being firmly held, without any pressure being made on the chest. To do this the attendants should take care not to stand opposite the patient's feet, lest he kick out and cause injury in his struggles; and also, in holding the head, be careful not to allow the fingers to get into his mouth. If sufficient attendants are at hand, the best method for holding him is for one to grasp each leg above the knee and above the ankle, and press them firmly downwards to the ground, and for two others to grasp each a hand and the point of the shoulder, while the fifth holds the head firmly between both hands. To prevent the tongue being bitten, a piece of soft wood or linen pad,

too large to slip into the mouth, should be placed between the teeth. Nothing should be given to drink for fear of injuring the mouth. The temples may be bathed with vinegar during the fit, or, if the head is hot, a stream of cold water from the spout of a kettle may be gently poured on the forehead. *After the fit* the patient should be allowed to sleep, but if the patient does not sleep and appears depressed, a stimulant, as a glass of wine, may be allowed.

In the intervals between the fits, temperance, exercise, occupation, spare living, and the avoidance of all bad habits should be enjoined. Constipation, worms, stumps of teeth, and too full a condition of system, if present, should be appropriately treated. If the patient is a female the condition of the 'monthly flow' should be inquired into, and medicines given to correct any irregularity of this function. Bromide of potassium (Recipe 19) should always be taken. If the patient is weak and irritable, tonics (Recipe 66) will also be required. The following advice may be safely taken by epileptics. Keep the bowels gently open, the head cool, the feet warm, the mind easy, never wear tight clothing, and avoid intemperance and indigestible articles of diet. The epileptic tendency may sometimes be successfully combated by the use of an exclusively vegetable diet, or by a very considerable reduction of animal food.

Nitrite of amyl globules inhaled from a pocket-handkerchief will often stop a fit coming on. *During the intervals between the fits* the following medicines may be used. Iodide of potassium 1 drachm; bromide of potassium 1 drachm; bromide of ammonium half a drachm; carbonate of ammonia 2 scruples; distilled water 8 ounces. Dose—a tea-spoonful before meals, and 2 table-spoonfuls at bed-time in a little water. To be taken until the characteristic effects of iodide and bromide of potassium are produced (*vide p. 9*, and *note* to Recipe 21). This does good in a majority of instances.

EPILEPSY, FEIGNED.—Epilepsy is sometimes feigned, but an impostor does not fall violently, but throws himself down so as to avoid injury.

The eyes are closed, instead of being fixed and staring; the pupils contract on being exposed to light; the tongue is not bitten; the face is red instead of pale; the skin is hot from the necessary exertion; and neither urine nor fæces are voided. Proposing to apply the actual cautery (or red-hot iron), or to shave the head, often frightens the impostor, so that he speedily recovers. Or blowing snuff into the nostrils will change the fit into sneezing.

ERUPTIONS.—Eruptions are of different kinds. Those of one class mark various kinds of fevers, which are therefore termed *eruptive fevers*, as typhoid, dengue, typhus, chicken-pox, measles, scarlatina, small-pox. Eruptions also occur without febrile symptoms as skin diseases. Different eruptions are described under the various maladies of which they are a part, or under *Skin Diseases*.

ERYSIPELAS.—Erysipelas is often called ‘St. Anthony’s Fire,’ and is a contagious inflammation of a portion of the skin, considered by some to be due to the operations of a microbe. It usually attacks those who are out of health from constitutional debility, or from bad food, from neglect of cleanliness and sanitation, and particularly from exposure to the impure air of hospitals and gaols. Erysipelas is most common on the face, which becomes shining, red, burning, and much swollen, the redness disappearing for a few moments on pressure of the part with the finger. Sometimes the swelling is so great that all distinctive features are quite lost. With the commencement of the redness, or previous to its appearance, there is chilliness or shivering, headache and nausea, followed by vomiting and high fever, with constipated bowels. The redness of the skin now becomes more defined, with severe burning of the part, on which at length small blisters may form, discharging a yellow fluid. *Simple erysipelas* as here described generally runs its course in from ten to fourteen days, the inflammation increasing for four days, after which it declines as the blisters mentioned above form.

In more severe cases there is much fever and perhaps delirium, the tissues underneath the skin are also affected, there is intense *throbbing* pain, and matter forms; the resulting abscesses and sinuses (*vide* pp. 39, 44) adding much to the danger, and indefinitely prolonging the disease. If the disease passes inwards to the brain, it may prove rapidly fatal.

Erysipelas frequently attacks wounded parts, or parts which have been subjected to surgical operation, or sometimes vaccinated arms, when the surface of the surrounding skin, or even of the whole limb, becomes red and swollen as above described. When this occurs the discharge from the wound ceases, and if nearly healed it reopens. An unhealed condition of the navel-string renders infants very subject to erysipelas, which spreads from the navel if the child has been exposed to contagion.

Treatment.—The part affected should be covered with lint soaked in tepid water, over which oiled silk should be laid. If this does not relieve the stinging pain, salad oil may be tried. A purgative, as sulphate of soda (Recipe 2) or castor-oil, will generally be required at first, after which the strength of the patient must be supported by nourishing diet, by an allowance of brandy or wine, and by the administration of quinine (Recipe 66) every three hours. If blisters form, they should be pricked at the most dependent part for the water to escape. Matter forming will generally require lancing of the skin over the part where it presents. As a general rule, when erysipelas attacks a wound or injured part it should be poulticed.

Of all the predisposing causes of erysipelas, deficient ventilation is the chief; and the greatest care must be taken to admit fresh air, without draughts, into the apartment. Unremitting attention should be paid to the cleanliness

of the patient, and everything about him. The bed-linen ought to be frequently changed, and not be allowed to remain when soiled by discharge. The part affected should not be wiped with a sponge but with cotton-wool, which should be immediately burned or buried. The patient's bedroom should be emptied of all but indispensable articles of furniture, and bed-curtains should be taken down. The motions should be at once removed and disinfected. In short the whole of the rules given in the *Appendix* regarding disinfection should be carefully carried out.

Instead of applying lint soaked in tepid water, use carbolic acid lotion if available (*vide Appendix*, No. 119).

[In most cases of erysipelas it will also be desirable to give iron, and Recipe 71 may be procured and given *with* the quinine.]

EYE AND EYELIDS, DISEASES OF THE.—AFFECTIONS OF THE EYELIDS. 1. *Stye*.—This term is applied to a small painful boil at the edge of the eyelid. It should be frequently well fomented with hot water, permitted to come to a head, and then pricked with a lancet or needle to let the matter out. If an eyelash grows from the stye, the hair should be plucked out with a pincers. Stye often depends on indigestion, and is indicative of a debilitated condition of system.

2. **TINEA, OR OPHTHALMIA TARSI**, is a more important affection, consisting of the formation of a number of little styes or pustules at the roots of the eyelashes. They discharge a yellowish brown fluid, which mats the eyelashes together. There is considerable smarting and itching, and often overflow of tears. The malady is most common in children affected by a scrofulous taint. A very similar condition may be caused by the 'crab louse.' If present the insect may probably be perceived on close examination. Or the eggs may be seen attached to the roots of the lashes. If *tinea* becomes chronic, or is

neglected, it may destroy the structure from which the eyelashes grow, so that eyelashes may be more or less wanting. The treatment consists of frequent washing with warm alum wash (Recipe 97) to prevent the accumulation and crusting of discharge. At night simple ointment (Recipe 86) or salad oil should be carefully applied with a camel's-hair brush or feather to the eyelids to prevent them sticking together during sleep. The bowels should be kept open, and tonics (Recipe 66) taken.

[A better ointment, especially if there are lice, is composed of one-third nitrate of mercury ointment and two-thirds simple ointment; and a better tonic medicine is citrate of iron and quinine (Recipe 70). In chronic cases cod-liver oil is advisable.]

3. EPIPHORA.—*Watery eye, or overflow of tears.* There is a communication between the eyes and nostrils, by what is known as the *lachrymal sac and duct*, the minute entrances to which may be seen near the *inner* corner of the eyelids. The duct conveys the tears *from* the surface of the eye *to* the interior of the nose, and if this passage becomes blocked watery eye results. The eye fills with water, which collects at the inner angle, and, if not wiped away, falls over the cheek. There is little pain, but the angle of the eye is tender, and the orifice of the duct is reddened, swollen, and closed. If the impediment occurs lower down in the duct, instead of at the orifice, the duct becomes swollen and forms a swelling below the angle of the eye. If the tears are allowed to fall continually down the cheek, the skin becomes irritated, reddened, and eventually excoriated. The causes are various. The stimulus of cold air, or of a bright light after darkness, will produce a temporary constriction of the passage, with a temporary overflow of tears. *Tinea* as described above is a frequent cause. It sometimes arises from the impaired tone and congestion of the parts, consequent on working

with minute objects. In old age the lower lid becomes flabby, and, falling down, exposes the orifice of the duct to cold, which produces congestion, and also by altered position prevents it receiving the tears. A similar result occurs when the eyelid is paralysed. Calcareous concretions sometimes form from the tears in the duct, and so block the passage. Inflammation of the root of the canine tooth, which is close to the duct, may excite inflammation in the duct. It may also arise from injury, and a hair accidentally entering the orifice has been known to cause the affection. If unrelieved, matter often forms in the duct below the corner of the eye, when the duct may burst and be destroyed. Watery eye must be treated with reference to the cause. For a moderate degree of watery eye an astringent lotion (Recipe 97) will be beneficial. The best application for threatening abscess is constant fomentation with hot poppy-water (*vide Appendix, No. 81*). Operative procedure is sometimes required when the passage is blocked.

EYE, DISEASES OF THE

1. CATARACT.—Cataract is a degeneration of the part of the eye called the ‘lens.’ It most frequently occurs in elderly people, and one or both eyes may be affected. In the healthy eye the *lens* cannot be seen, but when cataract occurs it assumes a white or bluish-white appearance, and may be detected through the pupil or circular central opening of the eye. Cataract may be months or even years forming. It must be distinguished from a white deposit on the front of the eye called ‘opacity of the cornea,’ and resulting from ophthalmia or ulceration (*vide p. 233*). In cataract vision is impaired, growing progressively worse, and the patient sees best in twilight, or when with his back to the light. Surgical operation is the only cure.

2. **GLAUCOMA.**—This term is applied to distension of the eyeball. The symptoms are attacks of dimness of vision, worse one day and better another. The person sees haloes round luminous bodies. There is diminution of the field of vision, as if a cloud obscured some portion. The eyeball feels hard. Pain of a severe bursting kind in the eyeball, above the eye, and at the side of the head, comes on occasionally. Although generally the disease is of slow progress, it may become rapid at any time. Symptoms as enumerated above should therefore lead to obtaining professional advice, and an operation may be required.

3. **IRITIS.**—Iritis is inflammation of the ‘iris,’ or that part of the internal eye in which the round ring of the pupil is formed, and which gives the various colours of the eye. In this disease, while *the white of the eye is injected, by red vessels running from the middle towards the circumference in generally straight lines*, the cornea or centre of the eye is clear. *Through this can be seen the ‘iris,’* which becomes discoloured, reddish if naturally dark, greenish if naturally blue. Afterwards a white deposit takes place, and the pupil may be thereby blocked up. There is intolerance of light, severe stinging pain of the eye and forehead, dull aching in the eye, and feverishness. The causes of iritis may be injuries, over-exertion of the eyes, venereal disease, or perhaps a gouty or rheumatic condition.

Treatment.—The eyes should be protected from light by a green shade and darkened room, and fomentation with hot poppy-head water should be frequently applied. If necessary the bowels should be relieved by purgatives (Recipes 1, 2), six or eight leeches should be applied to the temple of the affected eye, and chloral (Recipe 64) may be given at night to relieve pain; if the disease has occurred to a debilitated person, or to one who has suffered

from rheumatism or gout, or who is scrofulous, Dover's powder (*vide* p. 12) at night, and quinine (Recipe 66) three times daily.

[The advice of a medical man, or, that impossible, the following remedies, should be obtained immediately. For a patient of fairly good constitution, who is not rheumatic, scrofulous, or debilitated, calomel and opium pills (Recipe 23), which should be given until there is a metallic taste in the mouth, or until the gums are slightly tender. Under the influence of the mercury the deposit will be seen to break up and disappear, leaving the pupil clear. If calomel is given as above, when it is discontinued, iodide of potassium mixture should be commenced (Recipe 21). But if the patient is debilitated or rheumatic, iodide of potassium (Recipe 21) should be substituted for the calomel. In all cases two drops of a solution of atropine (atropine 2 grains, distilled water 1 ounce) should be dropped into the eye twice or thrice daily. This medicine dilates the pupil of the eye, and tends to keep it clear of deposit. If the patient is debilitated from any cause, liberal diet and tonics will be necessary from the first.]

4. NERVE OF THE EYE, AFFECTIONS OF THE.—The nerve of the eye (optic) and its expansion or termination in the eye (retina) are subject to various maladies, which were formerly included under the terms *amblyopia* (meaning indistinct vision), and *amaurosis* (or *gutta serena*, meaning total loss of vision). The ophthalmoscope has enabled surgeons to differentiate the nervous affections of the eye, which are now variously designated, in accordance with the appearances discovered by ophthalmoscopic examination. Nervous affections of the eye are frequently, but not always, associated with some general disease, as syphilis, diabetes, and albuminuria. Constant exposure to bright light, or working with very minute objects, also leads to affections of the optic nerve. Symptoms which may be expected are dimness of vision, distorted vision, sparks or flashes of light, narrowing of the field of vision, perhaps loss of portions of the field as if by a cloud in front, and sometimes night-blindness. Any such symptoms demand early professional advice. In the meantime the eyes should be

rested as much as possible; they should be protected from bright light, and any general malady should be treated.

5. OPHTHALMIA.—This term implies inflammation of the surface of the eye. There are several varieties, marked by a greater or less degree of violence. In mild cases the inflammation may not extend beyond the surface of the white of the eye, which is injected *with red vessels, running in different directions, and not straight from the centre towards the circumference, as described under Iritis, or Inflammation of the Iris (vide p. 225)*. There is a smarting feeling as if sand or grit were in the eye. There is intolerance of light, and the eye is watering and weak, and, particularly in children, especially if scrofulous, obstinately kept shut. There is also pain in the forehead, or head generally, and often some feverishness. There is a discharge from the eye, at first clear and thin, but afterwards thicker, and of a white colour. During sleep this discharge collects at the edge of the lids and dries there, gluing together the eyelashes, so that the person finds a difficulty in opening the eyes after sleep without first bathing them with warm water. One or both eyes may be affected. Or one may be affected first, and the other afterwards. It often results from cold, and has been supposed to be caused by a ‘flying bug’ in the eye, and it may be conveyed from one person to another by common flies. It is infectious, sometimes attacking whole families, and proving the more contagious the more the discharge resembles matter. Therefore, in all cases of ophthalmia the greatest care should be taken that towels, soap, water, &c., are not used in common. The duration of the disease may be a few days or several weeks.

Treatment.—Keep the patient in a darkened room with a green shade over the eyes, bathing the eyes frequently with hot water, or with hot milk and water; or, if there

is much discharge and the eyelids are painful, swollen, red, and inflamed, fomentation with hot poppy-head water (*vide Appendix, No. 81*) mixed in equal proportions with alum lotion (Recipe 97). Sometimes in slight cases hot applications are not acceptable to the feelings of the patient, in which case Recipe 97 may be used cold. If there is persistent pain, a leech or two may be applied to each temple at the margin of the hair. The edges of the lids should be anointed every night with salad oil or glycerine to prevent sticking; but if they adhere they should not be forced open, but be bathed until they separate. A purgative (Recipes 1 and 2) should also be administered if the bowels are confined. The diet should be light but nourishing.

6. PURULENT OPHTHALMIA is a very severe variety of the disorder, which may result from similar causes, or which may originate from neglect of simple ophthalmia, or from unhygienic conditions, especially overcrowding, or from noxious matter (as the discharge passed in gonorrhœa) being introduced into the eyes, either from using dirty cloths or otherwise. The inflammation is very severe, the whites of the eyes are so swollen that the middle of the eye or cornea is almost hidden, and the pain is very great. Instead of a watery or slightly white discharge, yellow matter is secreted which escapes from the eye in considerable quantities. In some cases the inflammation attacks the deeper parts of the eye, and the organ is destroyed. Purulent ophthalmia often occurs during small-pox. It is highly contagious. Therefore, when the disease occurs, the rules given in the *Appendix* regarding disinfection should be as much as possible carried out. The duration of the malady may be from ten days to two or three weeks; but it often leads to *ulcer of the cornea* (*vide page 233*), or to a rough and irritable condition of the inside of the lids, known as *granular*

conjunctiva (p. 230), either of which ailments may prolong the illness for months.

Treatment.—The eye should be well fomented every two or three hours with hot poppy-head water (*vide Appendix*, No. 81), and care should be taken that the disease is not communicated by cloths or otherwise, either to the other eye, if sound, or to the eyes of attendants. The face should be kept clean, and the eye or eyes affected should be covered with cotton-wool and a light bandage. The cotton-wool should be frequently removed and burnt. The patient should be kept in a darkened room, and the bowels should be opened, if necessary daily, by Recipes 1 and 2. When the pain and inflammation are great, it will be desirable to apply five or six leeches to each temple; a measure adopted to allay local irritation, not to weaken the patient. The edges of the lids should be smeared nightly with salad oil to prevent them sticking together; and (when the patient is old enough to understand and submit to the procedure) if the discharge hardens under the lids, the nozzle of a glass syringe, charged with tepid milk and water, should be carefully and gently inserted between the eyelid and the eyeball, taking care not to press on the latter, and its contents made to pass quickly over the internal surface of the lids. As the fluid escapes it carries with it any matter which by retention would aggravate the disease. The most useful medicines are quinine (Recipe 66) as a tonic, and chloral (Recipe 64) to allay pain. When the first violence of the inflammation subsides, it will be proper to wash the eyes frequently with warm alum lotion (Recipe 97), some of which should be permitted to fall into the eyes (as described below) several times daily. The subjects of purulent ophthalmia are often of naturally feeble constitution, or are debilitated by prior ill-health, or from other causes. The strength, therefore, should be maintained by good

easily digestible food and a little port wine. Thorough ventilation is of the greatest importance, as minute particles of the matter discharged become detached, dry up, and, floating in the atmosphere, are capable of infecting other eyes with which they come into contact. But free ventilation and exposure of such atoms to the oxygen of the atmosphere reduce such danger to a minimum.

[When the remedies as above do not prove satisfactory, blisters should be applied alternately behind the ears and to the temples; and a solution of nitrate of silver, of the strength of 10 grains to an ounce of water, may be obtained, a drop of which should be dropped in the eye from a quill or brush twice daily. It is a painful application, although often very serviceable. It is also sometimes necessary to lance the inflamed eye in order to prevent more serious mischief. The malady is therefore one urgently demanding skilled advice.]

How to Foment the Eye.—Place the fluid in a large basin, hold the head over it, dip a piece of lint or soft linen rag in the fluid, and without pressure apply the fluid freely to the eye. This should be continued for several minutes; then lay the patient on his back, open the eye, and squeeze the wet rag over it so as to allow the fluid to run into the eye. This simple method is more satisfactory than the use of glasses or apparatus sold for the purpose.

How to apply Lotion to the Eye.—A camel's-hair brush, or a quill cut oval-shaped, may be used. Fill the brush or quill with the lotion, draw down the lower lid, and let the fluid drop into the eye. In order to get the fluid well within the upper lid, move the latter up and down, without pressure on the globe, and the whole surface will be wetted. The brush or quill should be washed in warm water after use.

7. **GRANULAR OPHTHALMIA** is often the result of other forms of ophthalmia. It is characterised by the formation of granular bodies on the inner surface of the eyelids, more or less resembling sago grains, which, being rough, irritate the front of the eye. The object is to destroy these granulations by caustics, which can only be attempted by a surgeon. In the meantime, good diet, tonics, and bracing air are desirable.

8. **SHORT SIGHT.**—Short sight most frequently depends on too great convexity of the cornea (or front part of the

eye), or of the *lens* (in the interior of the eye), or of both. The rays of light are brought to a focus before they reach the proper part of the eye (*retina*), instead of being concentrated upon it. Short sight often originates in school-children from bad lights and constrained position. An opposite condition of the refractive *media* of the eye gives rise to LONG SIGHT; and as this opposite condition occurs as persons grow old, long sight is most common after forty-five years of age. For similar reasons, *short sight* may improve as people grow older. Short-sighted persons should avoid over-working the eyes, and especially by the examination of minute objects, or by writing in artificial light. Well-adjusted concave pebble glasses should be used; but the weakest power which will serve to assist vision should be chosen. The glasses should only be worn when actually required. Single glasses tend to alter the power of the eyes, and are therefore not to be recommended. For *long sight* convex glasses are required, and they should be so worn that distant objects may be seen over them at pleasure.

There are several other affections of the eye remediable by glasses, the principal being ASTIGMATISM and HYPERMETROPIA. Astigmatism implies an inequality of the refractive *media* of the eye, the rays of light not coming to a focus at one point. Vertical and horizontal lines drawn on paper are not seen equally distinct at the same distance. Hypermetropia means when neither near nor distant objects are seen distinctly owing to rays of light coming to a focus behind the retina.

9. SPOTS BEFORE THE EYES, OR MUSCÆ VOLITANTES.—Persons of sedentary habits or delicate constitutions, especially if they are in the habit of writing or reading much, or otherwise exercising their sight on minute objects, are liable to suffer from spots before the eyes in the shape of black motes, or grey films, or an appearance of something resembling spiders' webs. In some cases small circles with central spots are apparent. When looked at, these

appearances move slowly downwards. There may also be sparks, or a gradual formation from a point, of an extending 'zigzag' halo of light. Such impediments to vision are more perceived when the sky or some white object is looked at. They often first occur very suddenly, and may be the cause of much uneasiness, as it may be thought they are significant of some serious disease. But as a general rule this is not the case, although sometimes sparks occur as the forerunner of nervous affections (*vide* p. 226). Frequently they are symptomatic of dyspepsia, and spots especially are more apparent or troublesome when the stomach or liver is out of order. They often continue without increasing for many years. They depend, when permanent, on the rupture of a minute vessel in the vascular coat of the eye, probably from overstrain, and the consequent escape and deposit of a minute portion of the colouring-matter of the blood, which, imprisoned in a vessel, still moves with the circulation to a small extent.

Treatment.—Any particular employment which may seem to have caused the affection should be discontinued. Tonics, change of air, and rest to the eyes are the main remedies. The state of the digestion should be inquired into, and any error appropriately treated. Care should be taken not to wear tight cravats or collars, and the person affected should not read at night, or when lying down.

If the spots increase, or are very annoying, or if they are accompanied by weakness of sight, blue spectacles may be worn of a lighter or darker shade according to the degree of protection required. Blue spectacles are better than either brown, smoke-coloured, or green. Green spectacles protect the eyes only from red rays; while brown or smoke-coloured glasses intercept all rays equally, thus rendering vision indistinct. But blue glasses intercept only orange rays, which are the most intolerable to a sensitive eye.

10. SQUINTING.—A squint may be either single or double. It depends on want of equilibrium between the muscles which move the eye. It may be present at birth,

or may come on in childhood. It may arise from the irritation of teething, or from worms, or may be a result of the debilitated condition left by fevers. Squinting when a child is out of health is always a matter of anxiety (*vide Convulsions*, p. 145). Sometimes a film or *opacity* on the cornea (*vide* p. 233) leads to squinting. The treatment, therefore, of squinting must depend on the cause, and a surgical operation may be required.

11. ULCERS OF THE CORNEA, or central part of the eye, often result from neglected ophthalmia, from granular lids, and particularly from ophthalmia (sometimes in spite of treatment) occurring in scrofulous children. While the white of the eye presents more or less the injected appearance described as simple ophthalmia (p. 227), one or more red vessels may be seen stretching from the margin towards the centre of the cornea or middle of the eye, in some part of which a small rough-looking or white-coloured spot will be discovered; there is also much intolerance of light and watering of the eyes. In bad cases several of these spots may form, which are, in fact, ulcers of the part. If the case proceeds favourably, the white of the eye loses its injected appearance, the red vessel or vessels on the cornea disappear, and the ulcer heals, often, however, leaving a white spot or film, which may or may not also disappear during the next few weeks or months. When the disease does not progress favourably a large white film is left on the cornea (called *opacity of the cornea*), interfering very much with sight. In still worse instances the cornea is quite converted into a white mass, and the person cannot see at all.

Treatment.—A darkened but well-ventilated room must be insisted upon, and the eyes should be assiduously fomented with poppy-water (*vide Appendix*, No. 81), until the inflammatory redness of the white of the eye has almost disappeared. Then the essential point will be the

improvement of the general health. The diet should be nutritious, and a little wine should be allowed. Quinine should be given, and exercise short of fatigue should be taken in the open air, the eyes being well protected from light and glare.

[During the earlier stages of ulcer of the cornea a solution of atropine (atropine 2 grains, water 1 ounce) should be if possible obtained, and a drop should be dropped into the eye once or twice a day. Blisters should also be obtained and applied, alternately, behind the ears and to the temples. Iodide of potassium (Recipe 21) should be given internally. In the latter stages it may also be advisable for the ulcer to be *very lightly* touched, every second day, with a very fine pencil of nitrate of silver, or caustic point made for the purpose in a glass case. But this is an operation requiring great care and delicacy of touch, and should only be performed by those well aware of the properties of nitrate of silver, and of the appearances rendering its application desirable.]

FAINTING or **SYNCOPE** occurs from numerous causes. It may result from loss of blood, or from fright or sudden shock; it may be produced by a blow on the stomach, or by intense pain; or it may be connected in women with irregularities of the 'monthly flow.' It may be caused by a disordered stomach, or may arise from certain diseases of the heart. It may even arise from bad smells or unpleasant sounds. Persons most liable to fainting are females, and young men of nervous temperament. The first symptoms are giddiness, 'swimming' in the head, and pallor. A person in a deep faint is pale, unconscious, with feeble pulse, dilated pupil, relaxation of the limbs, unfrequent, irregular, scarcely perceptible breathing, white lips, and a death-like expression of countenance. The body should be *at once placed in the recumbent position*, the head even being allowed to hang down lower than the body; cold water should be dashed on the face and cold air admitted into the room, or the person should be taken out of doors. The limbs should be well rubbed, and a **burnt** feather should be held smoking under the nose,

which is a better remedy than ammonia. If a feather is not at hand, smelling-salts may be held to the nostrils for half a minute, every two or three minutes; strong salts should not be applied continually, as injury to the nostrils may arise therefrom. In prolonged faints a mustard poultice should be applied over the heart. The subsequent feeling of languor will be relieved by wine in moderate quantities. For the *prevention* of a fainting fit, lying down at full length, without a pillow under the head; or if not able to lie down, the head should be bent forward between the legs. Persons subject to fainting usually require tonics and outdoor exercise, and should avoid constipated bowels.

FAT, ACCUMULATION OF.—Both Europeans in India and natives often grow very stout; and sometimes this increase of size occurs rather suddenly, not only giving rise to inconvenience, but sometimes constituting disease. The cause is, probably, too much fat-forming food, and too little exercise at that period of life when the accumulation of a little fatty material is natural. When the fat is equally distributed about the body no immediate disadvantage may be experienced; but when it is accumulated in distinct parts, interfering with the functions of particular organs, its evil influence becomes apparent. The average weight of a healthy adult man in the prime of life, or from twenty-five to thirty-five, five feet in height, is 115 lbs., to which standard 5 lbs. may be added for every inch in height. For females the average is somewhat lower. When persons weigh much above their height, or when their waist girth exceeds their chest girth, they are growing fat, and there is a tendency to impairment of the powers, both of the muscles and of the blood-vessels. The heavier man carries greater bulk, and his heart has to propel into a larger mass of tissue a larger amount of blood. Hence one form of evil, viz. an

overworked heart, resulting from accumulation of fat, and which is characterised by shortness of breath, and sometimes by palpitation. In addition to this, fat may collect about, or in the substance of, the heart, giving rise to the malady known as *fatty degeneration* of that organ. This is marked by aggravated symptoms as above, with probably attacks of giddiness. In elderly people it is often accompanied by a peculiar appearance of the eyes, designated the *arcus senilis*, and known by a narrow opaque or whitish zone presenting near the margin of the *cornea* (or the circle of the eye where it joins the white). Fatty heart is a dangerous malady, as it may lead to dilatation of the organ, and any suspicion of such affection should lead to application for medical advice. In the meantime, persons so affected should avoid *all* kinds of exertion, hurry, or excitement. Another form of evil is fatty degeneration of the blood-vessels of the brain, which may terminate in rupture, and its consequence apoplexy (*vide* p. 55).

When persons are growing fat, the *first great principles of prevention* are *less food and more exercise*. The person who, becoming stout, desires to permanently reduce his flesh *must consume less food and take more exercise*. If he leaves off carbonaceous foods, of which sugar may be taken as the type, he will achieve his purpose the more quickly. There is no royal road *both to become thin and to keep so*. No system of dietary will achieve this. But spare food and physical exercise will do so.

The *second great principle of prevention* is the avoidance of those articles of food which are known, when taken in excess, to produce obesity. Fat of meat, bacon, fat pork, white bread, cheese, butter, thick soups, salmon, stews, preserves, beer, sweet wine, spirits, articles containing much starch, as potatoes, tapioca, rice, arrowroot, sago, and sugar, must be interdicted, or at least taken in

moderation. For sugar saccharin may be substituted, as, although possessing more sweetening power than sugar, it is not a food. Brown bread, toast, biscuits, rusks, lean of any kind of meat, fish, fowl, or game, green vegetables, as cauliflower, asparagus, and lettuce, celery, fruit, and light wines, should form the diet. Even if the regimen as above sketched cannot be strictly adhered to, attention to its leading principles will tend to prevent accumulation of fat, and also to lessen the amount present in the system. The change from one diet to another should be made gradually. The sudden withdrawal of accustomed articles of food is unwise, and it is better to lessen gradually the fatty portions of the diet than to go to extremes.

The dietary recommended is a modified form of Bantingism. Many persons placed on the strict system recommended by Banting, while reduced in bulk, feel so weak, dyspeptic, and wretched that they are unable to persevere. They are brought into a state of inanition—a condition unfavourable, especially in any tropical climate, to either physical or mental health and vigour. By such a method they avoid one trouble with partial success, only to fall into another, probably worse. For Bantingism is no permanent cure, as the tendency to obesity returns immediately the strictness of the system is relaxed. Similarly with the popular anti-fat cures (*Entfettungskuren*) of Continental health-resorts, also with the preparation known as 'Anti-fat,' which is a fluid extract of the *Fucus vesiculosus*, or 'sea-wrack.'

Other means of growing thin have been advocated. A diet almost exclusively of meat and hot water is one. Lean beefsteak is recommended as the model food, an occasional meal of plain boiled cod-fish, and now and then a few sticks of celery, being the only other articles of diet allowed. About a pint of hot water must be slowly taken three or four times a day between meals, and no other liquid. But a certain mixed diet is requisite for healthy nutrition, and neither fatty, farinaceous, nor albuminoid material can be omitted in any considerable proportion without detriment to health.

Another means proposed for growing thin is by minimising the quantity of liquid consumed. But it is essential there should be constantly passing through the system a sufficient quantity of fluid to hold in solution and wash away the constantly accruing products of bodily waste. For example, uric acid requires not less than 8,000 times its bulk of water at blood heat to hold it in solution, and if it be not so dissolved

it rapidly crystallises with more or less disastrous consequences, as in the production of gout, gravel, and other less well-recognised troubles.

A system has been recommended in which the person is encouraged to eat fat, and certain other matters, as salmon and *pâté de foie gras*, &c. This system is based on the principle that fat produces satiety, and thus diminishes the demand for food. But this system, like the previous ones, only produces a temporary effect, and, like all the others, may injure the health if long-continued. *If the result is to be permanent, there must be less food and more exercise.*

FEET, TENDERNESS OF THE.—Some persons suffer much from tenderness of the feet, and are unable to wear boots sufficiently thick to protect from jungle, thorns, &c. For the relief of this annoying condition nothing is better than bathing the feet daily in strong salt and water. Tender feet are often found perspiring and *smelling offensively*. Salt and water bathing will also tend to correct this, especially when aided by perfect cleanliness, and clean socks twice daily. Wool socks free from dyes, with divisions for the toes, are made for this complaint. Wool, being a slow conductor of heat, maintains the feet warm and of equable temperature, while it permits the perspiration of the feet to evaporate (*vide* Chapter VI., Clothing). *Cold feet* may be relieved by immersing them for two or three minutes every night in cold water, rubbing all the time, and then putting warm socks on.

FEVER.—All varieties of fever, from a common cold to the most severe, commence much in the same manner, with lassitude, headache, weakness of mental and physical power, chilliness, and painful sensations in the back and limbs. This is succeeded by heat of skin, quickened pulse, furred tongue, disordered stomach, scanty and high-coloured urine, with great thirst. Such a condition is common in most diseases, and after injuries, also from disordered stomach, and from cold, when the person is said to be 'feverish.' Fever also attends small-pox, scarlatina, measles, chicken-pox, and these maladies are

often called the **ERUPTIVE FEVERS**. Fever, therefore, in many instances must be regarded as a symptom of disease rather than the disease itself (*vide* p. 37).

But fever exists as a disease *per se*, or unconnected with any other malady. And of such fevers there are three divisions: *one class* marked by almost complete *continuance* of the symptoms from the origin to the termination of the attack; such as *Continued Fever*, *Enteric* or *Typhoid Fever*, and *Typhus Fever*.

A *second* class characterised by the more or less temporary or complete *cessation* of symptoms for a variable time, during which the patient may seem in health; such as *Relapsing Fever*, *Intermittent Fever* or *Ague*, *Remittent Fever*, *Masked Malarious Fever*.

A *third* class in which some of the symptoms of several varieties may appear, but not all the symptoms of any kind; such as *undefined climatic fever*, which has also been called *typho-malarial*, *malario-typhoid*, *typho-remittent*, and *hybrid*.

FEVER, CONTINUED.—Commences with a chilly sensation, pain in back and head, languor, weakness and loss of appetite, quick pulse, and heat of skin. When a person is thus attacked it is often impossible to foretell into which of the different phases of fever the disease may run. Such symptoms may be caused by exposure to cold and wet, or to the sun, or even by indigestion or over-fatigue. When thus excited it rarely lasts longer than from twenty-four hours to two or three days, and is then often spoken of as *Ephemeral Fever*. When, however, exposure to the sun causes fever, it may develop into a more serious form (*vide* p. 427). Also, the malady may continue by the skin becoming hotter, the pulse quicker, and by disorder of the stomach (evidenced by frequent vomiting and inability to retain food). It is to this condition that the term *gastric fever* is frequently applied (*vide* *Disorder of the Stomach*,

p. 415). Symptoms as above may also precede acute rheumatism (*vide* p. 367). Sore throat accompanying the fever would point to scarlet fever; headache, vomiting, and pain in the loins to small-pox; sneezing, running at the nose, and cough to measles; very severe headache with shivering and backache to typhus; dull frontal headache to typhoid. If the second day passes without a rash it is neither chicken-pox nor scarlet fever; if the third day passes it is not small-pox; if the fourth day passes it is not measles; if the seventh day passes it is not typhus; if the twelfth day passes it is not typhoid, but may be acute general tuberculosis. In the absence of any symptoms indicating maladies as above, the treatment of simple continued fever consists in perfect quiet, good ventilation, maintaining the bowels moderately open by Recipe 2, in giving citrate of magnesia draughts to allay feverishness, and in treating the accompanying disorder of the stomach as mentioned under that head (*vide* p. 415).

FEVER, ENTERIC or TYPHOID.—Typhoid fever is called also *enteric* fever, from its usually affecting the bowels; and it has been termed *pythogenic* fever, meaning fever generated by dirt. It is often, especially in Europe, connected with inefficient conservancy arrangements, such as a water-closet out of order, or escape of sewer-gas into a house. It is also believed to arise from drinking-water contaminated from sewers, and especially from sewers into which the discharges from typhoid-fever patients have been introduced. Thus a pump or well, and a cesspool or sewer, in close proximity, is very likely to give rise to typhoid fever in those drinking such water. Milk also has conveyed the disease, after dilution with contaminated water, or when allowed to stand in proximity to a diseased person. There is also evidence that the contagion may be conveyed by clothings which have been washed in contaminated water. Yet it is not by touch or odour the

disease is spread, but by germs (supposed to be microbes or *bacilli*) swallowed with food or otherwise. It is most contagious during the third week. It is more likely to attack young than elderly people ; and it is more prevalent during the autumnal months. The period between infection and development of the disease is from ten to twenty days.

Symptoms.—The onset [of typhoid fever is usually gradual, with feelings of *malaise*, aching in the limbs, headache, loss of appetite, and chilliness. But for some days the sufferer is able to go about thinking there is not much the matter. But sometimes typhoid fever sets in suddenly. Usually the bowels are constipated at first; but often the bowels are *relaxed from the first*, and the person may be supposed to have ordinary diarrhœa. There may also be from the commencement marked symptoms of stomach derangement, as nausea, vomiting, and inability to retain food, which has sometimes led to the disease being called *gastric fever*. At length the pulse, at first feeble, becomes quicker and full, the skin hot and dry, and at about the end of the first week the patient takes to his bed, with the appetite gone, the tongue coated, and the bowels loose. The fever is now found to be slightly *remittent* in type, showing an *exacerbation* or increase in the afternoon, and a slight *remission* or diminution towards morning, although it never varies to the extent of remittent. The urine is scanty and high-coloured, there is increasing restlessness at night, the face is often pale with a pink flush on the cheeks, while the eyes are clear and bright. The diarrhœa continues, and the stools passed are thin and of a yellow colour sometimes resembling pea-soup. If now the hand is pressed on the right side of the patient's bowels, his face will probably express pain, and a gurgling may also be felt and heard under the fingers. About this period also the bowels may

become tense and resonant. Between the seventh and twelfth day the peculiar eruption of typhoid fever appears on the chest, abdomen, and back; consisting of a few slightly raised rose-coloured spots, which disappear temporarily on pressure under the finger, and fade away in two or three days, being in the meantime succeeded by fresh crops. On the darker skin of the native the eruption of typhoid fever appears very like flea-bites. This characteristic eruption must not be confounded with one of very small watery vesicles, called *sudamina* (*vide* p. 399), and which occurs in most fevers. In favourable cases, and especially in children, after the appearance of the eruption a diminution of the fever takes place. In favourable cases, the patient may improve about the beginning of the third week, when the remissions of the fever become more distinct, the diarrhoea lessens, the tongue cleans, the pains in the limbs cease, the patient sleeps at night, the temperature of the body decreases, and the appetite returns. In more severe cases, about the middle of the second week delirium comes on, at first slight and only noticed at night, afterwards more constant, intense, and noisy. And it should be noted that when the mind is affected the person is apt to reply in the affirmative to every question. As the malady increases what is spoken of as the 'typhoid condition' presents, the tongue becomes drier, red and glazed, and often cracks in various directions, while dry, black crusts, called *sordes*, form on the teeth. The lips also crack and bleed. As the time advances, or during the third week, the patient loses flesh and strength, he lies prostrate, and often unconscious of what is going on around him, and if the case ends fatally he will become quite insensible, his temperature will rise higher, and he will, with trembling hands, pick and 'fumble' at the bed-clothes. A large degree of this picking and trembling is suggestive of much mischief in the intestines. Dilated

pupils, bleeding from the nose, blood passed with the stools, urine and stools passed involuntarily, muttering delirium, and convulsions, are all unfavourable symptoms.

The temperature should be frequently tested by the clinical thermometer (*vide* p. 33). If the temperature rises above 105° Fahr. *in the early morning*, or above 107° *at any time*, recovery is rare. In a typical case, during the first week the temperature rises perhaps to 105° ; during the second week the daily morning and evening temperatures are identical, a little above 105° in the evening and below 105° in the morning; during the third week the morning temperature is a little lower; during the fourth week there is a gradual fall. A sudden or irregular rise of temperature during typhoid denotes some local complication, probably in the lungs, which are very liable to become congested. A marked fall of temperature not unfrequently precedes dangerous bleeding from the bowels. Sudden variations of the pulse will denote similar complications.

The *duration* of typhoid fever from the commencement of the premonitory symptoms is ordinarily from three to four weeks; but there may be relapses, which happens in about 15 per cent. of cases. The mortality from typhoid fever is one in every six attacked.

Typhoid fever may be rendered more dangerous from the accompanying diarrhoea being very profuse and exhaustive. There may also be profuse bleeding from the bowels. Perforation of the bowel may occur between the twenty-fifth and thirty-second day—an accident attended with symptoms of fainting or collapse, and always proving fatal. Inflammation of the bowels may supervene, or the spleen or liver may become enlarged. There may be intense gastric irritation, marked by incessant vomiting and irritability of the stomach. The lungs may become congested, denoted by quick breathing and short hacking cough.

In adults, enteric fever may be mistaken for *typhus*, or for *remittent*, and the distinctions are given at pp. 249, 263. In children, enteric may be mistaken for *water on the brain* and for *disordered stomach* (*vide* Distinctions, p. 418).

Treatment.—The patient should be placed in a well-ventilated room without curtains or other impediments to perfusion by the air. The light from the windows should be prevented falling on the patient's eyes, and all noises should be stopped. The bed should not be too soft, and an india-rubber sheet should be placed under the patient. If possible there should be two beds for daily change. But the patient should not be allowed to exert himself at all, but should husband all his strength. The greatest cleanliness must be observed, and *all* the rules regarding disinfection given in the *Appendix* (No. 121) should be *carefully attended to*. Bedsores should be guarded against from the very first (*vide* p. 69). Throughout the attack the mouth and teeth should be kept clean. The body should be daily sponged with tepid water, the nurse drying and sponging one part at a time, so as to prevent chill from exposure; this relieves the patient, and tends to remove the unpleasant smell so common during fevers. Headache may be relieved by cutting the hair very short, by ice or cooling lotions. Vomiting and thirst are relieved by sucking ice. Milk, beef-tea, broths, jellies, extract of beef, Liebig's raw-meat soup, Brand's essence, should be the only articles of diet. A milk diet is the best. Given in small quantities, say every hour or two, from two to four pints may be taken in the twenty-four hours. The remarks on milk diet at p. 194 should be followed. Milk may be supplemented by one or two raw eggs *per diem* made into egg-flip, also by the other articles mentioned above; beef-tea not being used if the diarrhœa is excessive. It must, however, be remembered that digestion and absorption are much impaired, and therefore

food must not be too much pressed on the patient. No *solid food* should be allowed under six weeks or two months, because in consequence of the ulceration of the bowels occurring, the coats are very thin and liable to burst. Eating an orange or a piece of potato, or drinking an effervescent draught, may cause distension of the bowel and rupture it just when the patient is otherwise doing well; especially during the third and fourth weeks. After the first week, if the pulse is growing in rapidity and losing in strength, port wine and brandy, in the proportion of two ounces of the former or one of the latter every three hours, will be necessary. But in typhoid, *as in all other fevers*, the use of stimulants, and the amount to be given, must be guided by the effects produced. If, after stimulants, the tongue becomes more moist; or if the pulse becomes slower; or if the skin grows more moist, or the delirium less, the stimulants are doing good; if the reverse occurs, they are doing harm. In any case, and at all times, the fever may be moderated by saline cooling draughts, as citrate of magnesia (*vide* p. 15) taken *after effervescence has subsided*, and by cooling applications, as vinegar and water, or Recipe 83, to the head. The diarrhoea need seldom be checked unless the patient is purged more than eight or nine times in the twenty-four hours, and then a starch injection (Recipe 104) may be given, Recipe 68 may be used, and ipecacuanha in two-grain doses may be given night and morning. If this does not succeed, or if there is bleeding from the bowels, a drachm of powdered alum should be added to a pint of boiling milk, which should be then strained. Two ounces of this alum whey may be given after each motion of the bowels. Milk and lime-water in equal parts are also often beneficial. If *the skin is moist, and there is little or no headache*, sleeplessness and delirium may be met by an opiate, as chloral (Recipe 64). But no opiate should be

used, except under medical advice, so long as the skin is *hot and dry*. Before giving an opiate it should be ascertained if the patient does or does not sleep, as he will frequently assert he does not do so when sleeping for hours very night. When the patient is unconscious, care must be taken to empty the bladder, as it often happens he is unable to make water. In such cases the catheter will be required (*vide* p. 492).

[From the preceding it will be observed that more is to be done in this disease by care and good nursing than by medicines. Still the following may be recommended. Oil of turpentine, one drachm; white of two unboiled eggs; white sugar, one drachm; distilled water, six ounces. Two table-spoonfuls three times a day. Shake the bottle well before using. Should the diarrhoea become excessive, and not checked by the measures noted, Recipes 43 and 46 may be obtained and tried in succession. The latter recipe (46) is also very serviceable when blood is passed.

During typhoid and other fevers, when the temperature rises above 103°, cold or even iced baths are often used. The patient may be lifted in a sheet, and placed in lukewarm water, which may then be cooled by the addition of cold water to a temperature of 68°, where he should remain from five to seven minutes, after which he should be rapidly dried, and wrapped in dry sheets. Two or three baths should be given daily, and the same water may be used several times. Or the patient may be packed in a wet sheet, which is preferable for children and delicate persons. This treatment is *not* recommended unless under medical supervision; and placing the patient in cold water at first, as sometimes advised, is not recommended at all, as it may induce collapse or internal congestions.

The necessity of medical supervision applies also to the use of *kairin*, *antifibrin*, *antipyrin*, and other drugs which reduce febrile heat, but which also have a tendency to produce nausea, vomiting, and sometimes collapse.]

FEVER, TYPHUS.—This disease commences with severe headache, chilliness, loss of appetite, languor, and aching of the limbs. The commencement of the fever is sudden as compared with *enteric* fever, and in two or three days the patient takes to his bed. From the first there is much restlessness and sleepless nights. The head is heavy and

confused, with intolerance of light and ringing in the ears. When the disease is fully formed, there is a general aspect of a typhus case, which an experienced person will at once recognise. The patient lies on his back, with a dull, stupid expression, the eyes are suffused and watery, and a dusky flush overspreads the face. As the disease advances the eyes are half-shut and the mouth open; the patient lies moaning, and unable to move himself or answer questions; he probably grows deaf; and the lips, mouth, and teeth are dry and covered with black *sordes*. The tongue is covered with black or brown fur, the margins being often pale; and this coat may crack, but the tongue itself does not crack as in *typhoid*. The temperature of the body reaches 104° to 105° Fahr. at the end of the first week, and in favourable cases begins to decline about the fourteenth day. Throughout, the temperature is more sustained than in enteric fever, the morning and evening differences not being so observable. There is also frequently a slight diminution of temperature about the seventh day; and in favourable cases, although the temperature may again rise, it does not rise to the point it attained previously. The pulse ranges during the attack from 110 to 120. On the fourth or fifth day the characteristic rash of typhus appears, probably first on the wrist, then on the bowels and chest. The rash somewhat resembles measles, but soon assumes a darker hue, which has caused it to be termed the 'mulberry rash.' It presents as irregular spots varying in diameter, from three or four lines to a mere speck, being different from the more defined rose-coloured eruption of typhoid; and it must not be mistaken for *sudamina* (*vide* p. 399). Throughout the attack the bowels are constipated, not loose as in enteric fever, and there is often troublesome cough. Unfavourable signs are prostration, muttering delirium, picking at the bed-clothes, bleeding from bowels or nose,

blood in the urine, urine and fæces passed involuntarily, starting of the limbs, and insensibility. The average duration of typhus fever is fourteen or fifteen days, when the patient begins to recover, or the bad symptoms as above noted precede a fatal termination, which may not occur until the twentieth day. When recovery takes place the subsidence of the fever is often very marked and rapid, the temperature sometimes falling as much as four degrees in a night. During the progress of typhus there is a peculiar odour from the skin, which has been compared to rotten straw. Deafness, when occurring, is regarded as a favourable symptom. The mortality from typhus fever is one in five of those attacked.

The cause of typhus is considered to be a specific poison emanating from the bodies of persons affected, or which may be generated when human beings are overcrowded in ill-ventilated dwellings. Damp, squalor, filth, and poor diet are also favourable to its development. When typhus fever exists, the disease is communicable, and may be contracted by other persons. It may also be conveyed by contaminated clothing or furniture.

Treatment.—As regards ventilation, good nursing, cleanliness, quiet, and disinfection, the remarks under *enteric* are applicable. Similar medicines should also be given for the moderation of the fever. The diet should at first consist of milk and broths; but as there is no injury in the bowels in this disease, so much care under this head is not necessary for so long a period as advised under *enteric* (*vide* p. 245). Brandy or wine will probably be required after the first week. On the cessation of the fever and the approach of convalescence, tonics as quinine and acid (Recipe 67).

The principal distinctions between typhus and enteric fever are shown below :—

TYPHUS

Origin connected with overcrowding.
Occurs at all ages.
Onset more rapid than typhoid.

Face flushed or dusky, with heavy, stupid expression.

Eyes suffused and watery.
Degree of fever varies little, if at all.
Eruption dusky, mulberry-coloured, of irregular form, spots not elevated except at first. The skin appears mottled.
No diarrhœa.
No pain of bowels.
Tongue furred and *fur* cracked.
Odour like rotten straw.
Belly soft.

ENTERIC

Origin connected with defective conservancy.
Chiefly attacks young people.
Very gradual and insidious at the onset.

Face pale with pink flush on cheeks, and without the heavy, stupid expression.
Eyes bright and clear
Fever higher in the evenings, and less in the mornings.
Eruption rose or pink-coloured, regular, defined, spots elevated
Skin does not appear mottled.

Diarrhœa with yellow stools.
Pain of bowels constant.
Tongue furred and *tongue* cracked.
Not present.
Belly drum-like.

CEREBRO-SPINAL FEVER.—Convulsions, especially of the muscles of the neck, with pain down the spine, may occur during the progress of enteric, of typhus, and of relapsing fever. Sometimes these convulsions are so prominent as to become the leading symptom. This has led to the disease being described as a special fever as above. It should, however, be regarded as a *tetanic* or convulsive phase of the fevers named.

FEVER, RELAPSING.—Relapsing fever from the peculiarities of its course, has been called *short fever*, *five-day fever*, and *seven-day fever*, and, from a peculiar condition of the blood noticed below, *spirillum fever*. It is also known as *famine fever*. It is characterised by recurrence at tolerably regular intervals, the succeeding attacks becoming less violent, and the intervals between them more prolonged. Relapsing fever commences with feelings of chilliness, frontal headache, pain in the back and limbs, and prostration of strength. These symptoms may last from one to several hours, when the skin becomes sud-

denly hot and dry, with increase of headache, of pain of back and limbs, and with thirst. On the second or third day sweating may occur, but without relief to the symptoms. The temperature of the skin ranges from 104° to 108° Fahr., and the pulse from 110 to 120 beats per minute. There is usually no eruption of the skin; but sometimes rose-coloured spots have been observed. Jaundice is often a prominent symptom, sometimes occurring suddenly, sometimes gradually. At first the tongue is moist with yellow fur, then becoming dry and brown in the centre. The bowels are generally constipated, and there is often pain, tenderness, and enlargement of the liver and spleen. Severe shooting pains are felt both in the limbs and in the head, but delirium is rare.

From the fifth to the seventh day there is an abrupt cessation of all the symptoms, generally accompanied by copious perspiration, and occasionally attended with diarrhoea, or bleeding from the nose or bowels. The febrile symptoms are then *absent completely* for a few days, the tongue becomes clean, the appetite returns, and the patient may declare himself well. He may even go about and gain strength, and sometimes there is no second attack. But usually after six or seven days, during which period the pulse is often slower than natural, there is a sudden return of all the symptoms. The relapse lasts from three to five days, when the fever again abruptly declines. Sometimes a second or even a third relapse occurs, but each interval is longer and each attack shorter.

A microbe, which has been named, after the discoverer, *Spirillum Obermeieri*, is often found in the blood and saliva of persons affected with this fever. This worm appears in the form of thin threads, showing corkscrew-like movements. They are usually only found in the blood during the height of the fever, disappearing when the fever declines. It is stated there is no recognisable difference between this spirillum and a worm known as the *Spirillum plicatile*, found in water.

Starvation and destitution are the conditions chiefly tending to produce this disease. But, like other fevers, it is aggravated by overcrowding, want of ventilation, especially as regards the breathing and emanations from the sick, and all other unsanitary conditions. When originated, it is communicable to persons who have not been subjected to want of food, and is therefore contagious. The mortality is about 18 per cent. of those attacked, and the period after exposure to infection till the commencement of an attack is believed to be about eight days.

Treatment.—Consists in placing the patient in a well-ventilated room, in promoting cleanliness, and in giving milk and other nourishing diet, such as described in the *paras.* on enteric and typhus fevers. At the commencement of the attack the bowels, if constipated, should be acted upon by a purgative (Recipes 1 and 2). The skin should be daily sponged with tepid water. If there is much prostration with feeble pulse, stimulants will be necessary. During convalescence mineral acids and quinine (Recipe 69) should be given. For some time after the fever ceases the patient requires a generous diet.

FEVER, INTERMITTENT, or AGUE.—Of Intermittent Fever there are three principal varieties, viz :

The *Quotidian*, or daily ague, coming on every day; usually in the morning. The *Tertian*, or third-day ague, with interval of one clear day; usually coming on about noon. The *Quartan*, or fourth-day ague, leaving an interval of two clear days; usually commencing in the afternoon. Of all varieties, that which returns every day is the most common. But this regularity is not always observed; neither are the cold, hot, and sweating stages, described at page 253, always present as in a typical case. Hence there are *irregular* or *masked* agues, which cannot be classed under any particular form. But in all

varieties of ague in well-marked cases the symptoms are similar, and are divisible into the cold, hot, and sweating stages.

Causes.—Intermittent and Remittent Fever are both marked by paroxysms of fever followed by decline of the symptoms, although in *Remittent Fever* (*vide* p. 258) the period between the attacks is not so strongly defined by the appearance of returning health. Both fevers are attributed to the poisonous action of MALARIA in the system.

MALARIA has not yet been isolated as a distinct poison. But from various diseases (the chief of which are intermittent and remittent fevers) showing a tendency to *periodicity*, or to renewed force or decline at fixed periods, being found to prevail in certain localities, it has been reasoned that a poisonous emanation arises from the ground, or from something on the ground, to which emanation the term 'malaria' has been applied. Thus, judging from its presumed effects (*viz.* the prevalence of paroxysmal fever), malaria is mostly produced near the marshy banks of rivers; in the dense jungle usually found at the base of mountain ranges; on lands subjected to periodical inundation or to too profuse irrigation; in dense jungles and ravines; near marshes either of salt or fresh water; in arid, sandy, barren districts with a moist subsoil; and on long-neglected ground freshly excavated or turned up for cultivation. Still, reasoning on observation of the effects produced by malaria, it is supposed to exist in greatest abundance immediately after the monsoons, when the hot September and October sun dries the saturated ground. It has been presumed to be an invisible vapour floating in the atmosphere; but recently the idea has been revived that malaria consists of low vegetable organisms, which have been found by the microscope to exist in the mud of, and in the atmosphere over, certain marshes, which have been named *bacillus malaria*, and which, introduced into the human system, are said to cause changes in the blood. But so-called malarious diseases have prevailed on all kinds of geological formations, and it is scarcely reasonable to suppose all produce the same kind of vegetable organism. Sufficient malaria having been taken into the system by the lungs, or, as many believe, through the medium of bad drinking-water holding malaria in solution, intermittent or remittent fever is the most usual result; the nature of the disease, and the time when it may appear, being probably determined by the amount of poison received into the system, and by the strength or state of health of the person; the worst variety, or remittent fever, following the largest dose of malaria. On the other

hand, the dose of malaria may be so small as to induce no ill effects for weeks, or only to excite the condition presently described as *masked malarious fever*, or even merely simple headache, or *malaise*, or an attack of diarrhœa.

But so frequently do attacks of ague follow cold and chill, that the idea has been advanced, and is gaining ground, that 'chill' alone is sufficient to produce the malady, that there is no such thing as malaria, and that so-called 'malarious influences' are in reality atmospheric or climatic vicissitudes. Unless the *bacillus malarie* theory is accepted, to which there are fatal objections, malaria is invisible, imponderable, and not recognisable by any chemical test. All that has been taught regarding the characteristics and habitat of malaria has been deduced by inference from *presumed* consequences. *Recognisable* causes of disease may be fairly pitted against hypothetical malaria, as the excitants of so-called malarious disease. Fortunately the means of protection against malaria are the same as the means of protection against other more *recognisable* causes, as cold, damp, and chill.

Symptoms of Intermittent Fever or Ague.—Languor, debility, restlessness, yawning, stretching, and a sense of oppression about the stomach. In other instances there is uneasiness or pain in some particular part, as the legs, back, or loins; or there may be burning of the eyes or of the palms of the hands, or beating or other noises in the ears, or simply headache. Often the tongue is coated; there is frequently nausea and sometimes vomiting. Then a chilly sensation is felt all over the body, especially along the spine, the features shrink, the fingers become white and shrivelled, and the skin generally rough. This rough state of the skin is recognised as 'goose skin' or *cutis anserina*, from a more than fancied resemblance to the skin of a plucked goose. This cold feeling may be followed by violent shivering and chattering of the teeth. Sometimes the cold stage, or the shivering attack, comes on without any premonitory symptoms as above referred to. With the shivering, the lips, ears, and nose become bluish in colour, the breathing quick, and the pulse more frequent, while the tongue is white and dry, and severe pains are often felt in the back, loins, and limbs; also nausea and

vomiting may be more severe. Towards the end of this cold stage the inner parts appear to burn, while the outer parts freeze. Then, after a very variable time, from a few minutes to several hours, the shiverings and cold sensations gradually become less, and the second or hot stage commences. Flushes of heat are first felt about the neck and face, soon to be followed by the burning heat of the whole body. The face becomes red and flushed, the pulse quicker and strong, the temples throb, and the patient is very restless and irritable. Both during the cold and hot stage there are usually frequent calls to make water, which is passed in increased quantities, but of an irritating or scalding character. At length the sweating stage commences, by moisture first felt on the face and neck, and soon extending to the whole surface. The pulse now lowers to the natural standard, a sense of comfort is experienced, and the patient begins to feel in his usual health, although remaining weak and 'shaky' after the attack. The average duration of a typical attack of ague, such as is here described, is about six hours. But it may terminate much more rapidly, or be very greatly prolonged. Convalescence is marked by scanty, high-coloured, alkaline urine.

The increase of temperature during an attack of ague, as tested by the thermometer (*vide* p. 33), is from the natural standard of 98.4° to 105° or 106° Fahr. The temperature begins to rise several hours *before* the paroxysm sets in, so that, although the patient feels cold, the temperature is really above the normal figure. Also, for some days *after* the disease appears to have departed a periodic increase of temperature may be detected, and so long as this continues the patient is not cured.

Although the above symptoms are always present in a typical case of ague, it often happens, especially after repeated attacks of ague, that the cold stage is not present, or very slightly so, heat of skin coming on

without prior shivering. Often the head is affected, and there is, especially during the hot stage, delirium, the patient talking at random, and occasionally failing to recognise his friends. In other instances the stomach is chiefly affected, and there is continued vomiting, neither medicine nor food being retained. And the case may be complicated by affections of internal organs, particularly of the spleen and liver, which will be evidenced by pain or uneasiness in the parts. Certain other maladies, viz. browache, palpitation of the heart, diarrhoea, nose-bleeding, headache, noises in the ears, and troublesome cough, may alternate with ague (i.e. may appear instead of the expected ague on every other day).

Treatment.—The great object is to shorten the cold and hot stages. The patient should be put to bed, covered with blankets, and have hot bricks or hot-water bottles put to the feet. He should drink freely of hot tea or *congee*, or cold water if more agreeable. A pan containing hot ashes placed under the bed is a useful means of promoting warmth. Emetics are sometimes desirable in the first stage of ague. When there is nausea and inclination to vomit, and when the attack has come on shortly after a meal, a mustard-and-water emetic (Recipe 54) may be given with advantage. But the practice of administering either purgatives or emetics in every case is objectionable. Their operation disturbs and inconveniences the patient, and may expose him to cold at the critical periods of the passage of one stage into another.

In the second, or hot stage, the patient should be encouraged to drink freely of cold water (which is one of the best means of promoting perspiration), the body may be sponged with tepid water, or vinegar and water, and cold lotion (Recipe 83) may be applied to the head. Small doses of citrate of magnesia (*vide* p. 15) may also be given, which will tend to promote perspiration and to allay the irritability of the stomach.

When the patient begins to perspire, if not profusely, the perspiration should be encouraged by still keeping the body well covered, and by giving tea, or, if preferred, cold

water. If weakness is complained of, a little wine or brandy-and-water will be desirable, and he should not sit up for some time, lest fainting may occur. Great care should be taken that the patient does not get chilled when he changes his clothes after perspiration, and he should be carefully rubbed dry with warm towels.

It is during the intervals between the paroxysms that *cure*tive treatment must be employed. If the bowels are not in good order, if the tongue is furred and the liver inactive, a purgative, as Recipes 1 and 2, should be taken. Then quinine should be administered, either with sherry wine, as Recipe 66, or by itself in water and lime-juice to the extent of 5, 6, 8, or even 10 grains every three hours during the intermission, or until ringing of the ears, or noises in the head, or perhaps partial deafness, occurs as an effect of the quinine, when it should be at once stopped. Quinine proves most efficacious when given at the shortest possible interval after the paroxysm, and if the bowels are open the first dose should be given during the sweating stage. Except under medical advice it is not right to give quinine until the fever has abated and perspiration commenced. If this treatment is adopted the next paroxysm may be either altogether stopped or checked in violence. Those subject to ague, and who are well aware of the premonitory symptoms they usually experience, often prevent an attack by an early recourse to quinine, and by attention to the state of the bowels. In some constitutions, or in malarious districts, it may be necessary to give more quinine than the quantities mentioned. 'Experienced hands in ague do not think of measuring or weighing the dose [of quinine] at all, but unhesitatingly take from their bottle, always with them, a flat tea-spoonful of quinine powder, which probably contains about twenty grains.' A generous but easily digestible diet is desirable for those suffering from recurring ague, or when living in a

malarious locality. The most likely time for a relapse is a lunar month from the date of the first attack, and preparatory to this, the system should be again brought under the influence of quinine. When ague recurs a change of locality and climate should, if possible, be obtained.

When, during intermittent, the liver, spleen, or lungs become affected, the treatment must be that detailed for such ailments in combination with the quinine treatment for the cure of the ague. Intermittent fever, not being usually attended with any serious immediate consequences, often meets with little attention, particularly in children. But successive attacks will assuredly lead to blood deterioration, anæmia, and enlarged spleen.

[Quinine is not always successful, and when this occurs the fever may probably be re-excited by some disordered condition of the liver and bowels. In such cases it will be desirable to give a laxative, as 5 grains of blue pill every night, and the draught, Recipe 2, every morning, until the motions are of the natural colour; also to alkalisè the blood by effervescing draughts (Recipe 36). After two days of such treatment quinine may again be used with greater probability of success.

There are numerous other remedies reputed effective in ague. Thus the 'cinchona febrifuge' (*vide* p. 20) may be successfully substituted for quinine in many cases of fever. Arsenic is the next best approved anti-periodic; and quinine failing, or in cases where quinine cannot be taken in consequence of some peculiar constitutional idiosyncrasy (*vide* p. 18), Recipe 75 may be administered.

In cases of obstinate recurrent intermittent fever it will be desirable to try 'Warburg's Tincture.' This is composed of various aromatic substances digested in spirit with aloes, chalk, and camphor. The following are the directions for the use of this medicine:—Prior to the administering of the tincture it is necessary that constipation of the bowels, if present, be removed by a dose of castor-oil or other form of aperient. For an adult one-half of the quantity contained in the phial should be given unmixed and undiluted, a little before or at the first appearance of the next returning paroxysm of an intermittent fever; the other half, also unmixed and undiluted, after a lapse of three hours. During the interval between the first and second doses, and also for a full hour after the second dose, the patient must abstain entirely from food and drink. Immediately after taking the dose the patient

should retire to bed. The perspiration induced by the tincture should be promoted.]

FEVER, INTERMITTENT, or AGUE OF CHILDREN.—

When a child who immediately before was in its usual health declines its food, yawns, and lolls about, and yet does not complain of feeling ill, an attack of ague may be suspected. If the hands and feet feel cold, while the bodily heat, as tested by the thermometer, is above the natural standard (*vide* p. 33), there is almost certain additional evidence. The suddenness of the attack is usually sufficient to distinguish it from other fevers, and the symptoms do not differ from those in adults. Very similar symptoms sometimes arise from large abscesses, or diseased joints, which points should be inquired into. When ague occurs to children, it has always a great tendency to assume the *remittent* type. Instead of seeming apparently well, children are feverish, restless, and poorly all through the intermission. Occasionally, when pregnant women suffer from ague, the malady attacks the infant in the womb on alternate days, when the shivering of the unborn child is plainly felt by the woman. The treatment of intermittent fever in children must be conducted on the same principles as advised for adults, quinine and other medicines being given in accordance with the age of the patient (*vide* p. 6).

FEVER, REMITTENT.—*Rémittent* has been called *Jungle Fever*, *Teraí Fever*, *Bengal Fever*, &c., from the locality in which it originated; but all these so-called local fevers are essentially the same. Although remittent fever is usually described as a distinct disease, it is really an exaggerated intermittent. It often commences as an intermittent fever (*vide* p. 251), the *intermissions* becoming less marked until *after a few days* they become *remissions*—that is, the period of apparent health between the *paroxysms* does not present, the fever only slightly

clining or remitting. The symptoms of a remittent fever are those of ague without either any distinct intermission or any distinct cold stage. When the remittent phase of the fever is early declared, the commencement of the attack is still as noted of intermittent fever (*vide* p. 253). But instead of the hot fit subsiding in two or three hours, it continues longer, frequently for eight hours, and is characterised by the pulse becoming quicker, by heavy breathing, with great restlessness and heat of surface; the temperature, as shown by the clinical thermometer, being often, as early as the evening of the second day, as high as 106° Fahr., and the pulse varying from 100 to 120. The countenance is flushed, and the eyes 'bloodshot.' There is generally incoherence or delirium, and often yellowness of the whole body, which come on suddenly, or, more commonly, gradually. There is also sometimes great irritability of stomach, hiccup, and obstinate vomiting, of greenish yellow or brown material, and sometimes of black. After a variable time, usually about six hours, but sometimes not till twelve hours have passed, the *remission* occurs, which is more or less complete, according to the severity of the disease. This is characterised by perspiration, reduced temperature, softer pulse, and sometimes refreshing sleep. But often the *remission* of the symptoms is very slight, and the condition marking the second stage recurs, perhaps without any prior feeling of cold. As a general rule, the *remission* occurs in the early morning, lasting till noon. In severe cases it may be difficult to distinguish the remission, but it should always be watched for. *The continuance of the symptoms, without any prolonged or very decided interval of freedom from fever, constitutes the distinction between an Intermittent and a Remittent.* Also, the occurrence of a *remission*, although slight, is one of the features by which *Remittent* is distinguished from *Typhoid*.

The duration of a single paroxysm of remittent fever may be stated to average about twenty-four hours, but recurring paroxysms (unless cut short by medical treatment) generally tend to become of longer duration than the first. The duration of the disease by such recurring paroxysms is usually from five to seven, nine, or eleven days, but it may last much longer. The days mentioned have been regarded as critical when either a favourable termination or the reverse results. Favourable symptoms are distinct remissions, lowering of temperature and pulse, subsidence of gastric irritability, and copious perspiration. Unfavourable signs are increasing weakness, the passage of blood by stool, blood in the urine, cold sweat, delirium, insensibility; in short, the state described at page 242 as the *typhoid condition*.

During Remittent, affections of internal organs are very likely to present. The occurrence of great irritability of stomach and obstinate vomiting, especially during the hot stage, has already been enumerated among the ordinary symptoms. *This gastric disturbance is sometimes the most prominent and urgent symptom*, every article of food or medicine being rejected. Thus, persons with remittent fever, accompanied by disorder of the stomach, have often been erroneously regarded as suffering from *gastric fever*, the stomach derangement being really caused by the fever present (*vide Disorder of the Stomach*, p. 415). From the effect on the brain, particularly during the remission, sudden fainting may take place, probably after the patient has been imprudently raised into an erect posture, which should therefore be *carefully avoided*. There may be irritation, or even inflammation of the brain or its investing membranes, characterised by great heat of scalp, delirium, and injection or redness of the whites of the eyes, which condition may gradually pass into complete insensibility or stupor. Bronchitis or

inflammation of the lungs may occur, when symptoms may present as detailed under the headings of these maladies. Sometimes, during the progress of remittent fever, chest affections arise very insidiously; the symptoms, masked by the fever, not being prominent; and therefore, unless attention is directed to this probability, much mischief may occur before the complication is recognised. Chest affections, it may be noted, are very liable to supervene on remittent fever, occurring to natives, especially in the cold season, of the northern districts of India (*vide* p. 103). Congestion or inflammation of the liver or kidneys may occur, known by pains and other signs distinctive of these maladies (*vide* pp. 318, 314). The spleen may be chiefly implicated (*vide Spleen Disease*, p. 412). Remittent fever and delirium tremens are not unfrequently combined (*vide* p. 161). Diarrhoea may prevail. Dysentery may come on. The attack may be marked by great debility, and tendency to the *typhoid condition* (*vide* p. 242), from the first.

Treatment.—In ordinary cases, when no affection of internal organs is evident, a purgative, as Recipe 1, followed after three hours by Recipe 2, should be given daily, until the stools are of a healthy yellow colour and free from all lumpy material. Citrate of magnesia draughts (*vide* p. 15) should also be given two or three times daily. Headache may be relieved by a few leeches to the temples or behind the ears, or, if not so severe, by cold lotions (Recipe 83). Immediately on the first sign of remission, or when moisture of the skin presents, 15 grains of quinine with, if available, half a tea-spoonful of lemon-juice should be given, dissolved in 2 ounces of water. Quinine in 6-grain doses should be administered afterwards every three hours until recurrence of heat and dryness of the skin, when the quinine should be stopped; or until two days have been passed without fever, when the quantity

of quinine should be gradually reduced, the more rapidly if singing or noise in the ears or deafness occurs. If the fever returns after the first remission, and after the first doses of quinine have been taken, citrate of magnesia draughts, and laxatives if required, should be again given, quinine being a second, or third, or fourth time resorted to, on return of moisture of the skin and diminution of febrile symptoms. Some practitioners do not wait for the remission of the fever to give quinine, as here recommended. But this plan should only be followed under medical supervision. In the absence of such superintendence, the safer plan will be to wait for abatement of febrile symptoms before administering quinine, as the medicine is powerless to arrest a paroxysm after it has commenced. If, in consequence of the gastric irritability, quinine cannot be retained on the stomach, it should be given in 20-grain doses, in an injection of beef-tea. Vomiting may be sometimes relieved by sucking ice. Quarter-grain doses of ipecacuanha given every two hours may also be tried for the same purpose. Mustard poultices may also be applied over the stomach.

In cases where either the bowels, chest, liver, or spleen is affected, the same plan must be pursued for the cure of the fever. But *when the symptoms point to affection of the brain* quinine should not be given, excepting under medical advice. Affections of various organs supervening during remittent fever must be further treated generally as mentioned under the different headings.

During the whole progress of the malady good nourishing diet, in the shape of animal broths or jellies, and farinaceous puddings and gruels, should be given. If great debility occurs, or if fainting feelings are experienced, or if the tongue becomes dry and brown, with weak quick pulse, perhaps also accompanied by

muttering delirium, stimulants at regular intervals will be urgently demanded, and which should be given in the quantities, but *subject to the same rules* as mentioned at p. 245 under the treatment of *enteric*. When great debility occurs the patient should not be permitted to sit up, or even to raise himself in bed.

[When from irritability of the stomach quinine is not retained, 12 drops of *strong* nitric acid in an ounce of water should be given instead, until the sickness of stomach subsides. Or quinine may in such cases be injected beneath the skin; but this operation requires a peculiar instrument and special skill. For severe vomiting a pad of lint soaked with chloroform, laid on the pit of the stomach, and covered with oil-silk, is also often beneficial. When the purgative medicines recommended do not produce healthy stools, a mercurial dose, as Recipe 8, should be given. These means failing, 'Warburg's Tincture' may be tried (*vide* p. 257), or the cold bath, or packing (*vide* p. 246), may be desirable.]

Enteric fever being the disease with which remittent fever is most usually confused, the chief distinctive points are given below:—

ENTERIC	REMITTENT
Onset gradual.	Onset sudden.
Shivering little marked.	Shivering more marked.
Temperature does not rise at first for some days.	Early rise of temperature, often on first day.
Origin connected with defective conservancy.	Origin connected with exposure to malaria.
Usually diarrhoea from the first, with yellow stools.	Constipation at first, or dark bilious stools.
Tenderness and pain of bowels.	None.
Eruption of rose or pink-coloured spots.	None.
No decided remission of fever.	Daily remissions, generally occurring in the early morning.
Jaundice, or yellowness of the skin, very seldom occurs.	Often occurs.
Gastric symptoms, as nausea, hiccup, and vomiting, occasional.	Gastric symptoms nearly always present.

FEVER, REMITTENT, OF INFANTS.—Infants and children are very subject to fever of the remitting description,

although not always arising from so-called malaria. The main symptoms are much the same as those described above, but a shivering fit is very seldom noticed, although the hands and feet feel cold. As in the adult, the malady is marked by *incomplete* cessation of the febrile state. This incomplete cessation of the fever is generally most marked in the early morning, while the aggravation of the symptoms is most developed towards the evening and in the early part of the night. The decline or *remission* is generally attended with some degree of perspiration, but not always. In remittent fever of children there is always a tendency to wandering of the mind, or to convulsions, and delirium or stupor often occurs, the latter accompanied by much restlessness, and probably moaning. Remittent fever in children may occur from a number of causes, of which malaria, the irritation of teething, worms, improper diet, and collection of faecal matter in the bowels, prolonged diarrhoea, large abscesses, affections of bones and joints, lung affections, and disordered stomach are the chief. In perhaps the majority of cases of remittent fever occurring to children the malady is *not* caused by malaria, but arises from one of the other reasons named. Remittent in children can therefore only be correctly treated by first ascertaining the cause, and then using the remedies recommended for such a condition. When there is no other cause evident, and the attack appears to arise from malarious influences, the bowels, if confined, should be opened by castor-oil, citrate of magnesia (*vide* p. 15) should be given during the paroxysm, at the first decline or remission; or when perspiration appears, nitine in doses according to the age of the child (*vide* and 119).

If greater **REFINED CLIMATIC FEVER.**—Called also *malario-experient*, *typho-malarial*, *typho-remittent*, *hybrid*. A con- with wearisome proportion, if not the great majority, of the

fevers of tropical countries are a mixture of several phases based on a few prominent symptoms common to all.

Undefined climatic fever commences, like all other fevers, with an indefinite period of languor, lassitude, and chilliness, or sometimes shivering, with more or less headache, succeeded by a gradual, but sometimes by a sudden, rise of temperature. From the time when the temperature rises to 101° or 102° till the date of death or recovery is ordinarily from a fortnight to three weeks, occasionally shorter, but often much longer, extending even to 120 days. During this time there are always morning and evening variations, the range of temperature being sometimes as much as 9° . There are also frequent but variable *remissions*, and often amelioration about every ninth day, when the appetite may return, and the inexperienced be led to believe there is little the matter. Occasionally, also, there is complete abrupt cessation of the fever. Thus, while in the *temperature changes* the fever somewhat resembles *remittent*; in the *duration* of the fever it more resembles *enteric*; while in the *tendency to periodical amelioration* and occasional *abrupt cessation* it simulates *relapsing*. Spots or eruptions may or may not be observed; sometimes the rose spots of enteric, at others the darker spots of typhus, sometimes none. Diarrhœa, light or dark, may or may not occur, while the tenderness, gurgling, and resonance of the bowels marking enteric (*vide* p. 241) are equally uncertain. About the middle of the second week there is generally delirium. During the whole attack debility is strongly marked. The spleen is generally enlarged, often also the liver, and not unfrequently there is sallowness of the skin, or even jaundice. Thus *undefined climatic fever* may sometimes most resemble remittent; at others, enteric, typhus, or relapsing; still not be distinguishable as either, but yet the blurred image, of all. Any complications or sequelæ

which occur during or after any other phase of fever may present during or after *undefined climatic fever*.¹

Treatment.—In mixed cases the best treatment is to give quinine as recommended under *remittent*, and otherwise to treat the patient as advised under *enteric*. If the fever is enteric the quinine will do no harm, and is indeed recommended by high authorities for its power of reducing the temperature; while if the fever is *remittent*, the general treatment advised for *enteric* will be applicable.

FEVER, MASKED MALARIOUS.—It consists of very slight febrile excitement, which may be *intermittent* or *remittent*. It is often present in delicate females, and is frequently found associated with a scorbutic state of the system. It is common in the autumnal and winter season among the inhabitants of notoriously malarious districts. The individual affected complains chiefly of heat, dryness, and burning in the palms of the hands, less frequently in the soles of the feet, and he may be annoyed by occasional periodic beating or singing in the ear. There is more or less general uneasiness, perhaps slight headache, and depression of spirits, but no decided pain anywhere. The pulse is not excited; the skin, excepting in the palms, does not feel warm to the touch; but the clinical thermometer will show that the temperature is higher than natural. The appetite probably remains good, but the sleep is restless. The burning of the palms may be

¹ It has been sought to explain the undefined or hybrid fevers met with in the tropics by regarding them as *enteric* modified by *malarial poison*, or as *malarious* modified by *enteric* poison. With this view the author does not agree. He holds there is one disease, *Fever*, of which fevers described as distinct diseases are simply phases or modifications; the particular phase depending on the temperament, constitution, and surroundings of the individual. This is not the place for a discussion on the subject, which will be found in the author's 'Manual of the Diseases of India,' second edition, article 'Fever.'

persistent, with slight remissions, when the parts become a little moist; or there may be distinct intermissions. This condition may prevail for months or even years, and is oftentimes so slight as scarcely to attract much attention. But in other instances it constitutes a perpetual source of discomfort. Persons so affected are not especially prone to attacks of fully developed fever. They appear often to escape the latter by the morbid influence expending itself in the constant induction of the masked form. But they generally become *anæmic* (*vide* p. 46). To this condition the term *malaria cachexia* is often applied.

Treatment.—Quinine (Recipe 66) or other tonics, and attention to the general health. A liberal diet and a moderate amount of wine or beer, with coffee at least once a day. So-called *malarious cachexia* is often benefited by lemon-juice. A fresh unpeeled lemon should be cut into thin slices and put in a pint of water, which should be boiled down to two-thirds of a pint in an earthenware jar. The liquid should be allowed to stand all night, and should be strained and taken in the morning. Change of climate is the certain remedy.

[The other tonics referred to above are iron and arsenic (Recipes 70, 75, 76). A condition resembling masked fever sometimes arises from saturation of the system with quinine or arsenic, given for the cure of fevers. The blood is poisoned by these agents; which, although necessary to cure fevers, are known to be capable of exciting a febrile condition. If it should appear that a continued use of quinine or arsenic has induced a febrile state, mild purgative and diuretic medicines should be administered (Recipes 9, 2, and 50), with the view of eliminating such excitants from the system. If the patient is not too debilitated, the Turkish bath may also be used (*vide Appendix, Baths*).]

FEVER, YELLOW, is an infectious fever which usually confers protection against a second attack. It ordinarily commences suddenly with shivering, followed by fever. There is constipation, much headache, troublesome vomiting, tenderness at the pit of the stomach, redness of the eyes, and pain in the back and limbs. On the third or fourth day the symptoms subside, and the person may recover. But most frequently

the stomach tenderness returns and black vomit sets in, i.e. the vomit contains blood, the stools being dark from the same cause. Jaundice also occurs, and the patient sinks into the typhoid condition (*vide* p. 242). It is stated that, although common in other hot climates, yellow fever does not occur in India, which may be doubted, as black vomit sometimes appears in cases called remittent. *Treatment* consists in supporting the strength by light liquid nutritious food and stimulants, which, if not retained on the stomach, should be given as injections. Liquefied carbolic acid in four-minim doses every three hours as a medicine.

FEVER, DENGUE.—Usually the first symptoms of dengue fever are headache, restlessness, chilliness, debility, pains in the back, limbs, joints, and eyeballs of a very severe character, with more or less feverishness, and often irritability of the stomach. But dengue sometimes commences with a sudden pain in some joint, and without symptoms as enumerated above. Shortly afterwards, generally within twelve hours from the first feelings of uneasiness, an eruption of a red or scarlet character appears on the face, chest, palms, and elsewhere, lasting about forty-eight hours. During the fever the temperature rises to 103° or 104° , while the pulse ranges to 120 beats in the minute. But this rise of the heat of the body and the increased frequency of the pulse only last during the limited first febrile state, and the condition is not ordinarily indicative of danger. As the rash disappears the fever lessens, and for two or three days there is generally an almost complete cessation of pains and fever. Then, with an accession of fever, a second eruption, more resembling that of measles, occurs, probably first seen on the palms of the hands. This may be so slight as to escape notice, or it may last a few hours or persist for two days. Sometimes this second rash resembles 'nettle rash' rather than measles, and there is often intense itching, and sometimes scurfiness of the skin as in measles. This second fever and second eruption often leave the patient much weakened and depressed, with

rheumatic soreness, stiffness, and pains in the joints, and perhaps enlargement of the glands of the neck or groin. A third attack may also occur. Dengue fever prevails epidemically, and is contagious. It attacks both adults and children—even infants—when the startings occasioned by the pain may be mistaken for convulsions. But the after pains, so distressing in grown-up people, seldom cause much trouble to infants and young children, who recover with rapidity. Dengue fever, from the accompanying eruption, has also been called ‘red fever,’ also ‘scarlet rheumatism.’

Treatment.—Attention should be directed to the state of the bowels, and constipation, if present, should be relieved by Recipe 1, followed by Recipe 2. If there is much fever small doses of citrate of magnesia (*vide* p. 15) should be given; if there are sleeplessness and great pain in the limbs, but the head is *not* complained of, 10 or 12 grains of Dover’s powder, or 20 grains of chloral, may be given at night. If there are periodical returns of pain or feverishness, quinine, as Recipe 66. Warm baths in which a couple of pounds of common washing-soda has been dissolved are also useful. For children little treatment is required. A senna purgative (*vide* p. 26) and cooling draughts of citrate of magnesia will be advisable, and if the child is teething the gums should be lanced if hot and swollen.

[Tincture of belladonna in 10-minim doses often relieves the pain and mitigates the fever. This may be given three times a day in water. Or colchicum mixture (Recipe 52) may be tried if belladonna is not efficacious.]

FEVER, HECTIC.—Hectic fever is a consequence of profuse or of long-continued discharge from an abscess (*vide Abscess*, p. 41), or from the lungs, as in consumption (*vide* p. 142), or from *diseased joints* (*vide* p. 311). Hectic fever does not declare itself as long as the matter is pent

up ; but after matter begins to flow hectic fever may be expected. The fever always commences towards evening, and declines in the early morning. Often the commencement of the attack is marked by shivering or sensations of cold. Then the skin becomes hot and dry, while the eyes look brilliant, the cheeks flushed, and the pulse rises to 120 beats in the minute. The urine passed is turbid and offensive ; the bowels are usually costive at first, but after repeated attacks diarrhoea generally prevails ; the tongue presents a white fur in the centre, while the tip and edges are clean and red (*vide* p. 36). There is often considerable headache, restlessness, and a complaint of burning heat felt in the interior of the body. After a variable time, generally in the early morning, the skin becomes moist, and the fever terminates in profuse sweating, often attended by great exhaustion. During the day the patient remains free from fever. The appetite often remains good, and is sometimes excessive. But periodical recurrences of hectic are always attended with failing strength and increasing emaciation ; consequences both of the fever and its termination in profuse perspiration, and of the discharge of matter causing the fever. As a rule, a hectic patient is easily depressed and easily excited ; his mind is buoyant and hopeful, and as soon as relieved from present distress he is sanguine of recovery. Hectic fever may continue for weeks or months, or as long as the exciting cause—the discharge of matter—persists. After a variable period diarrhoea occurs, and this is an unfavourable sign, as it adds much to debility.

Treatment.—This consists of a liberal diet, meat, chicken, game, broth, soups, jellies, being given to as free an extent as the digestion of the patient will allow. A small quantity of port wine will also be advisable, but it should not be used towards evening, as it may add to the febrile excitement. The best time for the stimulant will be

at the period of exhaustion consequent on the termination of the fever in the characteristic debilitating perspiration. Broths, soups, and jellies may also be *offered* at this time, but should not be forced on the patient, whose appetite will probably return later in the day. As medicine, cod-liver oil, iron, and quinine, either in combination or alone, will probably be required. If a wound exists, matter should be prevented 'bagging,' or collecting in sinuses or fistulæ, by suitable dressings (*vide* pp. 43, 44). If the strength permit, carriage exercise, or even walking exercise short of fatigue, may be taken with advantage. But the most important point is placing the patient under good general sanitary and individual hygienic conditions, avoiding all late hours and excitements; plenty of fresh air, especially in the sleeping-room, coupled with avoidance of chill.

[Perspiration may be usually lessened by acid mixture (Recipe 43) taken every two hours on the accession of the fever. Diarrhœa may be combated by Recipe 46, or, if this does not succeed, Recipe 47.]

FISTULA.—This term is applied to any sore which burrows under the skin. A deep-seated abscess, having only a small opening through which the discharge passes, comes under the denomination *Fistula*, and, if extensive, is a condition with which *hectic fever* (*vide* p. 269) is often associated. *Fistula* may occur in almost any part of the body, but the term is more popularly used with reference to fistula near the *anus*. This, technically termed *fistula in ano*, results from the formation of abscess. The cause of abscess near the anus is sometimes obscure. External injury, or internal injury, as from a swallowed fish-bone sticking in the gut, may excite abscess. When matter forms near the anus it is characterised by throbbing pain and fever, and the parts should be fomented and treated as advised for *abscess* (*vide* p. 41). As matter forms a swelling becomes apparent, and it usually points close to

the orifice of the anus, and should be opened *early* with a lancet (*vide Abscess*, p. 44). Then the abscess may gradually cease discharging matter and heal, or otherwise a fistula remains which usually communicates internally with the gut. The treatment of nearly all kinds of fistula requires surgical operation.

FISSURE or ULCER OF THE ANUS.—This consists of a crack or ulcer of variable extent, situated at the junction of the skin with the gut, and extending inwards. The causes are habitual constipation, and the passage of large hard stools. Scratching the part in consequence of some local irritation sometimes originates fissure. It is very frequently associated with piles. The chief symptom is pain on going to stool, of a very acute character, often continuing for hours. Often the *fæces* are streaked with blood; and if the fissure is deep and large, there may be bleeding each time the bowel acts. There is also usually frequent spasm of the muscle round the orifice of the anus, accompanied by intense pain. The spasmodic pressure thus exerted by the muscle gives the stools a flattened or ribbon-like appearance. It may cause irritability of the bladder, and in females symptoms referable to the womb. When such symptoms present, fissure or ulcer may be suspected; but the fact cannot be ascertained without examination. The treatment requires laxatives (Recipe 2) to soften the *fæces* and prevent straining at stool. Or injections of warm water may be administered for the same purpose. The parts should be kept very clean with soap and water, and be bathed several times daily with alum wash (Recipe 100). But when the fissure is deep or large, a somewhat painful although slight surgical operation will be required.

Instead of alum wash, if available, use carbolic acid lotion (*Appendix*, No. 119). Caustic (nitrate of silver) is the best local application; and

in simple cases, if applied to the bottom of the fissure, previously well washed, often effects a cure.

FITS.—The term ‘fit’ is commonly used to signify almost any sudden attack; especially such as Apoplectic, Epileptic, Hysterical, and Fainting. These are treated of in the order named at pp. 53, 216, 234.

FLATULENCE.—Flatulence is an accumulation of gas in, and its discharge from, the stomach and bowels. The gas formed is generally sulphuretted hydrogen (*vide* p. 203); but in hysterical females it is inodorous and chiefly carbonic acid. Flatulence causes rumblings, colicky pains, nauseous eructations, vomiting, and palpitation of the heart. Care in diet, and abstaining from those articles of food after which flatulence occurs, is more satisfactory than medicines. Thus sugar, pastry, rice, sago, and arrowroot are not well digested by those subject to flatulence. Flatulence, however, can only be radically cured by considering it and by treating it as a symptom of dyspepsia (*vide* p. 197) or of hysteria (*vide* p. 305).

FLATULENCE OF INFANTS.—Flatulence or ‘wind’ in the stomach of infants usually results either from food being unsuited to the child, in which case it should be changed; omitting sugar, increasing the quantity of water and adding salt, is often successful. Or flatulence may arise from the child taking food too quickly, or in too large quantities, which should be guarded against. It is frequently the cause of great suffering to the child, from the pain it occasions in the bowels. Infants thus affected scream violently, often stopping for a few moments suddenly, as though straining, and their legs are drawn up towards the bowels. The best means of relief is rubbing the child’s belly gently with the palm of the hand, and a few grains of citrate of magnesia (*vide* p. 15) may be given. If this does not stop the pain in the

course of ten minutes, a drop or two of chlorodyne (*vide* p. 12) in a little water.

[A much better remedy, however, is the magnesia and aniseed mixture (Recipe 22), which should be procured from the chemist.]

FLUSHING OF THE FACE is a symptom of dyspepsia often met with, without much other disturbance of the health, and generally occurring after meals. It frequently occurs to women about the 'change of life.' If any article of food is followed by flushing, it should be avoided, and little or no wine or other fermented drinks should be used. The bowels should be maintained moderately open, and plenty of exercise should be taken.

[In some instances 10 drops of dilute sulphuric acid in water three times a day is very serviceable. For the flushing of females at the 'change of life,' if attended with mental depression, bromide of potassium (Recipe 19) may be used; if attended with hysterical symptoms, weight in the head, and perspirations, tincture of *nux vomica* may be taken in 2-drop doses, in a dessert-spoonful of water two or three times a day. For flushings with 'hot and cold perspirations,' nervousness, throbbing at the temples, and 'fluttering' at the heart, valerianate of zinc 2 grains, extract of gentian 3 grains, made into a pill, may be taken three times a day.]

FUNGUS FOOT DISEASE is most common in Western India. It principally attacks natives, and is supposed to arise from the entrance beneath the skin of a vegetable spore or germ. It is generally seen in the feet, but may occur in other parts. Its first sign is swelling under the skin, in which may be seen a bluish or black appearance. After a variable time the skin bursts, and an open sore results, discharging a black substance with matter. The removal of the diseased part by surgical operation is the only means of cure.

GALL-STONES.—Gall-stones are small substances which form by the deposit in the gall-bladder, of certain elements of the bile, present in too great redundancy. Their formation is much favoured by sedentary habits, want of

exercise, and too much animal food. Mental worry also predisposes to gall-stones. Women are more liable to the complaint than men. So long as the stone remains in the gall-bladder it is not productive of inconvenience, and often its presence is unsuspected. But the flow of bile sometimes carries a stone into the short duct or tube leading from the gall-bladder into the intestines. This often occurs after a full meal, or after some muscular effort. A small stone may pass through the tube without causing any, or only slight, pain. A larger stone causes sudden attacks of shivering, followed by excruciating pain, immediately to the right of the pit of the stomach, shooting to the back, with vomiting, first of the contents of the stomach, and then of sour bile. There is occasionally sudden jaundice, when the stone, exactly fitting the tube, blocks the passage altogether. If a small stone remains impacted in the duct the flow of bile is prevented, but not altogether stopped, and jaundice comes on more slowly. From the pain mentioned above there are intervals of comparative ease, and pressure will, to a certain extent, relieve it, the person throwing himself about the bed, or pressing his thighs on the belly to get relief from change of posture. This distinguishes the malady from inflammation, when pressure and motion are painful. In exceptional cases an impacted gall-stone may excite inflammation of the parts. And a gall-stone may sometimes become the cause of obstruction of the bowels (*vide* pp. 81, 82).

The passage of *gall-stone* may be mistaken for the passage of *gravel* stone from the kidneys, especially if the right kidney is affected. The distinctions are as follows :—

GRAVEL STONE

Pain in loins, usually on one side.
Pain shooting from loins down
groin and thighs.

GALL-STONE

Not.
Pain to right of pit of stomach
shooting to the back.

GRAVEL STONE

On either side.
 Numbness of thigh or leg.
 Testicles drawn up.
 Frequent desire to make water.
 Making water may be painful.
 Water scanty, high-coloured, or bloody.
 Not so frequent.
 Vomiting usual.
 Previous history of gravel.
 Most common in men.

GALL-STONE

Pain most on right side.
 Not.
 Not.
 Not.
 Not.
 Not altered.
 Shivering usual.
 Vomiting usual.
 Previous history of gall-stone.
 Most common in women.

Treatment.—If possible a hot bath, or otherwise the painful part should be fomented with very hot water. At the same time the part may be gently shampooed or kneaded. If the attack comes on after a full meal, an emetic (Recipe 54). If not after a full meal, a tumbler of hot water in which a tea-spoonful of carbonate of soda has been dissolved. Chloral to the extent of fifteen grains every three hours for three doses. If much sickness exists, the chloral should be given as an enema. If the bowels are costive, Recipes 1 and 2 should be administered as a purgative. During the attack the patient should try and walk about. At the end of an attack the *fæces* passed should be examined for gall-stones, by washing the stools through muslin or through a sieve. Gall-stones are brown or greenish-yellow in colour, are round or oval, or where several have been in the gall-bladder rubbing together, they may present flattened facets. They vary in size, from that of a millet-seed to that of a peppercorn. In exceptional cases they may be as large as a walnut. It is always desirable to ascertain whether gall-stones have or have not been passed, because if a single stone comes away *smooth and round*, it may be assumed there are none left behind, and that the trouble is over. Persons subject to gall-stones should always keep the bowels well open, for which *Carlsbad salts* or *Hunyadi Janos water* are recommended. Very

plain living, abstinence from fatty substances, no spirits or beer, and a fair amount of exercise are the other means of prevention.

Various preventive measures have been recommended, viz. olive oil from four to eight ounces every day; sixty minims of liquor potassæ in a glass of beer three times a day; from ten to twenty drops of a mixture of three parts of sulphuric ether and two of oil of turpentine, to be taken in capsules thrice daily; phosphate of soda sixty grains twice or three times a day. Whichever of the above is chosen must be continued for some weeks. But none of them are advised excepting the phosphate of soda, which may be obtained in the effervescing form, the most pleasant method of taking this aperient; dose, from one to three drachms. Occasionally a gall-stone may be felt and pressed out of the gall-bladder, but this should not be attempted except by a medical man.

GASTRIC DISEASES.—Gastric diseases are stomach complaints. The term *Gastric Fever*, in common use, conveys an erroneous idea of a fever of a special type, the fact being that it is one or other of the varieties of fever accompanied, as mentioned to be the case (*vide* p. 239, 241, 255, 260), with great irritation of the stomach, pain, and obstinate vomiting (*vide Disorder of the Stomach*, p. 415).

GIDDINESS or VERTIGO.—This sensation is often described as ‘dizziness,’ or ‘swimmings,’ not amounting to actual fainting. Objects around appear to be moving in different directions. There is a sense of dimness or darkness, and perhaps sounds of bells or drums in the ears. There is loss of power to balance the body, with more or less mental confusion. It varies much in intensity, and may be frequent or occasional. In many cases it is only felt on movement, as on rising quickly, or in certain positions, as when the head is hanging down. Giddiness may occur as a symptom of simple weakness or debility, or as premonitory to a fainting fit. Or it may be connected with disordered stomach, or indigestion, or gout. It may arise from excesses of various kinds, from tobacco, and from

too much mental work. It often occurs to females at the 'change of life.' In other instances it may be premonitory of epilepsy or apoplexy, or be consequent on diseased heart. Giddiness must therefore be regarded as a symptom of disease rather than as a disease itself (*vide* p. 37), and the conditions causing it must be discovered and treated. For temporary relief *sal volatile* (*vide* p. 8).

GLANDS, ENLARGED.—There is a system of minute vessels throughout the body termed *absorbents*, and on their course are little bodies termed *glands*. In health these glands are scarcely perceptible, but when enlarged they attract notice. The glands most liable to enlargement are as below.

ENLARGEMENT OF THE GLANDS OF THE NECK.—This occurs in young persons, especially if of scrofulous habit, and is often absurdly spoken of as the 'glands of the ears down.' The glands may enlarge, remain swollen for days, or even weeks, and then subside. But they sometimes inflame, gather and form matter, and cause an ugly sore, which leaves a disfiguring scar. When the swelling is not painful and *before throbbing* indicates the formation of matter, cold lotion (Recipe 83) should be assiduously applied. If this does not *stay* the gathering, it should be *hastened* by poulticing, and when the matter points, the abscess should be opened with a sharp lancet, the puncture being made longitudinally, or in a line with the folds of the skin of the neck, by which a remarkable scar will be avoided. After matter has ceased to flow the part should be dressed as an ordinary ulcer. Quinine and nourishing diet should be given. If possible a surgeon should be consulted early before the glands inflame as to the propriety of removing them by operation.

[If the enlargements are not tender, and there is no throbbing pain, iodine paint should be applied daily (*vide Appendix*, No. 111). Cod-liver oil should also be given. If the patient is pale and feeble, citrate

of iron and quinine (Recipe 70). Previous to the formation of matter, sulphide of calcium is recommended. Take of sulphide of calcium 2 grains, sugar of milk 40 grains, to make 20 small pills or powders. For a child three years old, one every four hours, dissolved in water; at six years old, two powders.]

THE GLANDS OF THE ARMPIT may enlarge from similar cause, or from injury to the hand, or from cancer of the breast.

THE GLANDS OF THE GROIN may swell and gather from similar causes, or from venereal disease, forming bubo (p. 109).

The treatment of the two latter descriptions of enlarged glands is the same locally as when the glands of the neck are affected. But general treatment must depend upon the diseases causing the enlargement.

ENLARGEMENT OF THE GLANDS OF THE BOWELS is referred to at p. 67.

Lastly, swelling of the *glands behind the jaw* not unfrequently occurs, forming *mumps* (*vide* p. 338).

GOÎTRE, or DERBYSHIRE NECK.—This consists in enlargement of the thyroid gland, which is a gland situated in the front of the neck. It sometimes attains a great size, causing, by pressing on the windpipe and blood-vessels of the part, difficulty of breathing, difficulty of swallowing, headache, and prominence of the eyes, change in the pitch of voice, which becomes reduced, and sometimes diminished muscular power on one or both sides of the body. A severe form of the disease is called *exophthalmic goitre*, or ‘Grave’s disease,’ in which prominence of the eyes is a very marked symptom. Goître is frequently associated with idiocy, and a condition called *cretinism*, in which there is imperfect development and deformity, especially of the head. Both forms of goître are most common in females. It occurs principally in hilly districts, and particularly where lime is contained in the water. It has therefore been thought

due to the latter cause, and removal to another locality is a better remedy than any medicine.

[The best application is biniodide of mercury ointment (Recipe 94), which should be rubbed on the part daily, the patient sitting in the sun or before a large fire; iodide of potassium (Recipe 21) internally.]

A condition termed MYXŒDEMA sometimes occurs in connection with affections of the thyroid gland. Myxœdema results more in connection with atrophy or shrivelling of the gland than with enlargement. It is characterised by swelling of the skin, especially of the face, which appears enlarged, and of the hands, which lose shapeliness. The skin looks waxy, dry, and rough. But the skin does not pit on pressure with the finger as in dropsy (*vide* p. 186), the cause of the swelling not being water but a gelatinous deposit. A similar deposit takes place in internal organs. Irritability of temper, slowness of speech, loss of memory, are other results. The malady principally occurs to adult females. Tonics, as quinine, iron, and arsenic, and medicated baths, are desirable. Preparations of the thyroid glands of sheep have been advised as curative.

GONORRHOEA.—Gonorrhœa arises from contagion. It may occur in either the male or female. It commences, usually on the third day after exposure, with itching and redness of the urinary passage, accompanied by a thin whitish discharge. In two or three days there is swelling of the private parts, severe scalding pain in making water, and a copious discharge of thick yellowish-coloured matter. The groins, thighs, and testicles ache and are tender, and there is often, particularly during the night, partial hardness of the penis, known as *chordee*. The duration of gonorrhœa is from ten to twenty days.

But gonorrhœa frequently causes one or other of the affections enumerated below. The inflammation may extend to the *testicle* (*vide* p. 438). The *bladder* may become inflamed (*vide* p. 70). *Bubo* may form (*vide* p. 109). *Phymosis* or *paraphymosis* may be excited (*vide* p. 346). Inflammation of the end of the penis, called *balanitis*, may occur (*vide* p. 282). *Gonorrhœal rheumatism* is another sequel (*vide* p. 282). *Gonorrhœal warts* may grow (*vide* p. 282). *Retention of urine* may result (*vide* p. 420).

Ophthalmia may result (*vide* p. 228). Lastly, *gleet* may remain, and ultimately cause *stricture* (*vide* pp. 282, 419).

Treatment.—If the disease cannot be treated at the onset, as mentioned in small type, the bowels should be kept freely open by sulphate of soda (Recipe 2), and citrate of magnesia draughts (*vide* p. 15) should be given. Pain may be relieved by fomentations, or hot hip-baths, by chloral, or by chlorodyne. If *chordee* occurs, the part should be immersed in cold water, and thirty drops of spirit of camphor (*vide* p. 24) may be taken in water. In all cases rest, in bed if possible; the person should drink plenty of barley water or potash water; the diet must be low, fermented liquors, spiced dishes, and coffee being avoided; and the part should be well supported and not allowed to hang down.

[If gonorrhœa in the male be detected at the first, when only a little itching or watery discharge is present, it may be often cut short by injecting, once every four hours, a solution of nitrate of silver of the strength of 2 grains to 8 ounces of water. (For method of injection, *vide* *Appendix*, Injections.) This should be repeated six or eight times, desisting sooner if the discharge is in the least bloody, or if any pain is excited. The patient should take an aperient, as Recipes 1 and 2. After the aperient he should take 1 drop of tincture of *nux vomica* every hour, in a tea-spoonful of water. He should also lie down as much as possible, and the private part should be enveloped in a rag kept wet with a lotion (Recipe 84).

As soon as the patient is free from febrile symptoms, he should take *copaiba* prepared in a capsule, which may be swallowed like a pill, and the nauseous taste thus avoided. But in some persons *copaiba* induces an eruption like 'nettle-rash.' If so, the following mixture may be substituted. Infusion of *cubebs* (made by infusing 1½ ounce of bruised *cubebs* in 12 ounces of water) 12 ounces; iodide of potassium 1½ drachm. Dose—2 table-spoonfuls three times a day. A sulphate of zinc injection, as Recipe 98, should be used twice daily.]

Gonorrhœa in the female is marked by the same symptoms as in the male. There is heat, pain, and swelling of the parts, pain in making water, and in walking. For females, internal remedies are useless. For the first few

days warm poppy-water (*vide Appendix*, No. 81) should be used daily, with a female syringe, as an injection; and afterwards alum injection (Recipe 100) should be made tepid, and injected frequently and freely.

The treatment of the affections mentioned as sometimes resulting from gonorrhœa is as below:—

When the *testicle* becomes affected, injections, if being used, should be discontinued; and the treatment indicated at p. 438 should be adopted. When the *bladder* is inflamed the treatment should be that mentioned for inflammation of the bladder (p. 70), and injections, if being used, should be discontinued. The treatment of *bubo*, *phymosis*, and *paraphymosis* is given at pp. 109 and 346. *Balanitis* means an eruption of, and discharge from, the end of the penis, accompanied with much pain and swelling, for which frequent bathing and washing with warm water and soap, and afterwards alum wash (Recipe 97), is the best treatment. *Gonorrhœal rheumatism* presents the same symptoms as acute rheumatism (*vide* p. 367), and is to be similarly treated. *Gonorrhœal warts* arise from the irritation caused by the discharge, aided by uncleanness. Warts should be washed twice daily with salt and water, and then sprinkled with *calomel*, which generally cures without pain; but warts may require to be cut off by a surgeon. The treatment of retention of urine is indicated at p. 421, of ophthalmia at p. 228. *Gleet* signifies a watery discharge, accompanied by scalding. It is often tedious, requiring lengthened treatment and very temperate living. The daily use of a sulphate of zinc injection (Recipe 98) and attention to the general health, with iron and quinine, will generally prove successful. *Stricture* may arise from neglected gleet, when the discharge will not cease until the stricture is treated (*vide* p. 420).

GOUT.—Gout is a very painful affection arising from *lithic acid* being generated in the blood and deposited in

the parts. Lithic acid may be formed as the result of prolonged excess, or indiscretions in diet causing defective action of the liver or kidneys; or it may be a consequence, in persons hereditarily predisposed to gout, of failure of action of the liver and kidneys, even without evident indiscretion in diet. In some characteristics gout resembles rheumatism. But gout first attacks the smaller joints, as the toes and fingers; rheumatism the larger joints. Gout generally attacks the indolent and those feeding luxuriously; rheumatism, the ill-clothed and ill-fed poor. Gout is a disease of advanced life; rheumatism often attacks the young. But gout may be combined with rheumatism, when it is known as rheumatic gout.

An attack, or, as popularly termed, 'a fit of gout,' is usually preceded by irritability of temper, feverishness, headache, and symptoms indicating indigestion. Gout most frequently comes on during the night. There is acute grinding pain in the part, most usually the great toe, abating towards morning, but leaving the toe red and swollen, tender and shining. There is also acid perspiration; the patient's temper is increasingly irritable; and the urine, at first scanty, high-coloured, and clear, afterwards becomes more copious, and deposits a sediment resembling pink sand or pounded brickdust. For several nights the pain may return, although it is usually lessened as the swelling increases. As the pain and swelling subside the skin of the part peels off in flakes. The disease then disappears, perhaps not returning for months. Repeated attacks may lead to ulcers and *chalk-stones*. Gout may occur in the fingers with similar results. The nails of gouty persons become hard, brittle, and marked with lines. In rarer cases it may suddenly leave the toe and attack the stomach, which will be known by sudden and excruciating pain at the pit of the stomach, with flatulence, faintness, nausea, and feeble irregular pulse. Gout may

also attack other internal organs, causing giddiness, bronchitis, asthma, and affections of the skin, eye, ear, heart, and brain. This is due to the deposition of lithic acid in the parts affected; but such conditions can only be diagnosed or treated by medical skill.

Treatment.—On the approach of the attack, or ‘fit,’ the bowels, if confined, should be moved by Recipes 1 and 2, and in the absence of *colchicum*, mentioned in the small type below, sulphate of soda should be given in 2-drachm doses three times a day. But the medicine must not be allowed to depress the patient, and should be reduced in quantity if it acts too much on the bowels. The local treatment consists in wrapping the inflamed part in cotton wool, previously steeped in a strong hot solution (4 drachms to 1 ounce of water) of carbonate of soda, and then keeping the limb well raised from the ground, and as still as possible. In all cases warmth is the great thing, cold having a tendency to drive the gout to some internal organ. Rest must be absolute, and the diet must consist only of milk, arrowroot, and the like. Toast water, Vichy water, or seltzer water may be taken freely. If there is need for a stimulant, Scotch whisky or gin may be used in small quantities, but for a time stimulants are better avoided.

After the fit the diet should be mainly vegetable. Fish is better than flesh, and chicken than beef or mutton. Sweets and articles containing sugar must be altogether avoided. As a rule fermented liquors should not be taken, although in some instances a little claret, chablis, hock, or gin-and-water does no injury. Regular exercise and attention to the bowels, so as to prevent costiveness, are also enjoined. If the attack cannot be traced to high living or indiscretion in diet, the kidneys or liver, or both, will probably be in fault, and the urine will be clear and pale, or the stools light and constipated. In such con-

ditions citrate of magnesia (*vide* p. 15) and Recipe 1 will be useful.

If the stomach is attacked, brandy-and-water must be given, and mustard poultices should be applied to the feet, with the view of restoring the external inflammation.

[Those liable to gout should obtain colchicum wine and colchicum and potash mixture (Recipe 52). On the approach of a fit of gout, 30 minims of colchicum wine should be taken in a couple of ounces of water and afterwards the colchicum and potash mixture (Recipe 52) every four hours until the pain ceases, or until depression or nausea results. Usually this will stop the attack in twenty-four hours, after which in any case the treatment should not be continued without an intermission of a day. Also, if there is any affection of the heart, the colchicum treatment should not be pursued, except under medical supervision. Cotton-wool on which half a drachm of chloroform has been scattered is a better local application than the carbonate of soda mentioned in the large type. If this does not succeed, a lotion composed of acetate of lead 1 drachm, acetate of morphia 3 grains, water 8 ounces, should be obtained and applied *warm*. It should be recollected that it is *poisonous*. When after an attack of gout there are dyspeptic symptoms, Recipe 13, as a dinner pill. The following prescription may be also taken with advantage: Citrate of lithia 80 grains, citric acid 3 drachms, syrup of orange peel 3 drachms, distilled water 16 ounces, to be made into a mixture. Bicarbonate of soda 3 drachms, distilled water 16 ounces. Two ounces of each mixture to be taken *together* while effervescing. As preventive of gout the use of the waters of the places mentioned below may be advised: Aix-les-Bains, Bath, Buxton, Cheltenham, Contrexéville, Harrogate, Leamington, Wiesbaden, Vichy, Carlsbad, Kissingen, Aix-la-Chapelle.]

GRANULATIONS are little red portions of flesh which grow in and fill up wounds. When more than ordinarily luxuriant they are commonly called 'Proud Flesh.' Granulations are the consequence of the natural healing process. When they are high, pale, and spongy, they require touching with alum, or sprinkling with powdered loaf-sugar, which reduces their growth and allows the wound from which they spring to heal.

GRAVEL.—Gravel signifies a deposit in the urine. There are two principal kinds, viz. *red* and *white* gravel.

Red Gravel is composed of *uric* or *lithic acid*, or of other salts termed *urates* (the principal being *urate of ammonia* or *soda*) more or less mixed with the colouring-matter of the urine. Sometimes, from variation of the latter, such deposits are rather pink than red. The urine of persons passing red or pink gravel is clear, acid, of dark golden colour, and often less abundant than the urine of health. After it has cooled the red or pink deposit appears as a sediment. Persons noticing such deposits in the urine after it has stood are apt to believe they may aggregate and form a stone. If voided with the urine, or if the deposit occurs before the urine has completely cooled, there is such risk. But not if the sediment disappears by heating the urine in a test-tube, or silver spoon, to the temperature of the interior of the body, about 100° Fahr.

White or Yellowish Gravel consists chiefly of crystalline salts formed from the urine, the principal being *phosphate of lime*, or *ammonio-magnesian phosphate of lime*. This kind of gravel is of more grave significance than the presence of red or pink gravel. The white or yellowish gravel is formed from the urine *before* it passes from the body, and the urine is therefore *turbid when passed*, and if heated does not become clear like urine containing urates.

The passage of *red* or *pink* gravel is connected with a variety of conditions. Tawny or reddish sediments arise from a common cold, and are frequently associated with heartburn, acidity of the stomach, and other symptoms of indigestion or disordered liver, consequent on too rich diet. The pinker varieties are generally associated with acute rheumatism or gout, often following or alternating with attacks of the latter malady. Sometimes passing red gravel causes dull pain in the loins, and repeated calls to make water, but frequently there are no symptoms refer-

able to the urinary organs; but of *malaise*, headache, and depression.

When *yellow gravel* is passed there are shooting pains in the loins, running towards the groin and thigh, often numbness of the leg, with desire to make water, and pain at time of doing so. In the male the testicles are usually spasmodically drawn up. These symptoms are accompanied by feverishness, constituting what is popularly termed 'a fit of the gravel.' In some instances, without warning, the patient is seized with a most acute pain in the back and loins, accompanied by violent sickness and vomiting. There is frequent tendency to pass urine, which is scanty, high-coloured, or bloody. At length, during a violent retching, the patient experiences a sudden sensation as if he were stabbed, and from that time his acute pain gradually ceases. When these symptoms happen to a person passing white gravel, a small gravel-stone, formed in the kidneys, has passed through the ureter (a small tube connecting the kidney and the bladder) into the bladder, where it may remain, increase in size, and become stone in the bladder, or from which, if small enough, it may pass out with the urine. (For the distinctions between passage of gravel and gall-stones, *vide* p. 275.) But if a gravel-stone is too large to pass from the kidney to the bladder, it may remain in the kidney and excite inflammation or abscess (*vide* p. 314).

Treatment.—When a 'fit of the gravel' occurs, the great desideratum is the relief of pain. The patient should be placed in a hot bath and be given 25 grains of chloral, which may be repeated in six or eight hours if the pain continues or returns. Fomentation (*vide Appendix*, No. 80) may be used over the loins; and the bowels, if confined, should be opened by a purgative (Recipe 2). The patient should also drink plentifully of barley water, or linseed water, or weak tea.

[When the *red* variety is present, a diet chiefly vegetable, and in some cases strictly so, should be adopted. Sugar, tea, coffee, pastry, butter, cream, should be avoided. Alkaline medicines (Recipe 35) should be given so long as the urine remains, as it generally is in such cases, of an acid character. This may be ascertained by testing the urine daily with *litmus* paper sold for such purpose. Acid urine turns blue litmus paper red; alkaline urine turns red litmus blue. Aperients, such as Recipes 1 and 2, should be taken every other night and morning. Alkaline aerated waters, as Vichy or seltzer, are often very beneficial.

The time when the urine is most acid, and alkalis are most required, is about three hours after the principal meals. An alkali and an aperient may be then combined with a bitter tonic as follows. Take of bicarbonate of soda 10 grains, sulphate of soda 2 drachms, infusion of orange peel 3 table-spoonfuls, for a draught to be taken a couple of hours after eating. When indigestion, red gravel, and costiveness are combined, this will be found very useful, and the salts may be increased or diminished according to circumstances.

In cases of white or yellow gravel the urine is faintly acid or alkaline, and acids are the best medicines. *Dilute* nitric acid may be given in doses of 20 minims in water. Tonics, as quinine, will also probably be required. When yellow gravel is deposited, a more generous diet may be allowed than when red gravel appears, and a moderate quantity of wine will usually be proper. Meat, soup, milk, eggs, good bread, sound sherry, or bitter ale, are the articles to be preferred. Sugar, pastry, sago, arrowroot, and bad wine are to be avoided. Fresh vegetables, as cabbage, lettuce, mustard and cress, may generally be taken with advantage, but not rhubarb.

In all cases of gravel, and especially when *lithic acid* is passed, the amount of water drunk should be increased. A tumbler of hot water should be *sipped* in the morning, middle day, and in the evening. Too long time should not elapse between meals, as eating lessens the acidity of the urine; and persons should not lay too long in bed; as urine then lingers in the kidneys and bladder, and is more likely to deposit. Warm baths, friction with rough towels, flannel clothing, and exercise short of fatigue are desirable.]

GUINEA WORM.—The usual positions in which it appears are the lower extremities, but it may present in almost any part of the body. Attention is generally first attracted by the feeling of a thin cord beneath the skin, or otherwise by the formation of the characteristic blister always attending the presentation of the end of the worm

on the surface of the skin. The blister so forming assumes the size of half a pigeon's egg, and is frequently accompanied by itching of the body, or by an eruption like 'nettle-rash.' When the blister breaks or is opened, it is found to contain a glairy whitish fluid, in which the end of the worm may be found, thin and fragile as a hair.

A full-grown guinea worm may be three feet long. It is slender, about the thickness of packthread except at the extremity, where it is attenuated to the calibre of a hair. It is opaque, of a milk-white colour. On each side there is a longitudinal line, and when examined with the microscope it is seen to be marked with numerous transverse *striae* or stripes. The interior of the worm contains a vast number of young worms rolled up in coils. The young or ova of the guinea worm are believed to exist in the water of dirty tanks and wells, and they probably enter the system in two ways. They may penetrate through the perspiratory ducts, of which there are some 3,500 in every square inch of skin, or they may be taken into the stomach with drinking-water, making their way thence into various parts of the body. However the ovum or young worm is introduced, it slowly grows until it attains several feet in length, giving probably, during this period, little or no indication of its presence. The period which elapses from the reception of the embryo into the system till the appearance of the worm is from three to six months.

Treatment.—The end of the worm as it presents in the blister should be caught by, and coiled round, a roughened feather stem. Then, by very delicate management, a little may be extracted daily, by gradually winding the worm round the quill. But care must be taken lest the worm break, or lest the part of the worm round the quill becoming dry breaks, even without the application of force. An alum lotion (Recipe 100), applied with lint over the part, both softens and strengthens the worm, and so tends to prevent breakage. Extraction should only be attempted once in twenty-four hours, when perhaps an inch, and perhaps a foot, may be gained. The force applied should not be great, and the pulling should be delicately and yieldingly managed. During the intervals between extraction the quill should be secured to the adjacent part

by strips of sticking-plaster. Slight friction with oil along the line of the worm tends to loosen it. Also a stream of water over the part will often assist extraction. If the worm breaks, abscess and fever are the general results. The part must then be poulticed, and any matter forming liberated by means of the lancet; and if the broken end of the worm can again be seized, it should be extracted gradually, as before. Otherwise it comes away piecemeal, with matter forming in various parts of its course, entailing an oftentimes long, tedious, sometimes dangerous illness.

If the worm can be felt lying beneath the skin for a considerable distance, and there is therefore reason to believe its situation is altogether superficial, it may be cut down upon, a ligature passed beneath it, and the worm may be gradually extracted. But this should not be attempted without skilled advice.

GUMBOIL is a small abscess, generally commencing in the socket of a carious tooth, and bursting through the gum; or, if neglected, through the cheek. There is great tenderness of the tooth, especially on pressure, severe throbbing and aching pain, and a feverish condition of the body.

Treatment.—Fomentations are useful at first; but as soon as matter can be detected it should be liberated by a prick with a lancet. If the tooth causing the gumboil is much decayed, or there is only a fang, it should be removed; otherwise there will be a succession of gum-boils.

HAIR.—1. **LOOSENING AND FALLING OFF OF THE.**—In young persons this may occur from natural weakness of constitution; or it frequently happens after fevers, or to women who have suffered much during childbirth. First, the ends of the hair over the whole head should be snipped off. Then the long hair should be carefully separated, and the weak short hair snipped once every nine days. The

head should be well washed with solution of 'areca nut' every morning, and then rubbed with a rough towel sufficiently to cause heat and redness of the scalp. The use of the brush should be frequent, and it should be so employed as to cause warmth to the scalp. The above measures are more applicable for women desiring long luxuriant hair than for men. The hair of men will be best preserved strong and thick in India by keeping it cut short, and by cleanliness and the use of the brush. *Scurf* or *dandriff* is to be got rid of and prevented by similar means.

[When this does not do good, the following will be found to be an excellent application:—Take of olive oil 2 ounces, bicarbonate of potash a quarter of an ounce, solution of ammonia a quarter of an ounce, tincture of cantharides 2 drachms; mix well. To be applied by rubbing on the surface of the scalp and at the roots of the hair, after washing with cold water. It should produce a glow. An excellent hair-lotion for after-use is—2 ounces of eau de Cologne, 2 drachms of tincture of cantharides, 10 drops of oil of rosemary, and 10 drops of oil of lavender.]

2. FALLING OFF OF THE HAIR IN PATCHES.—If the patches are circular, and pimples are seen on the denuded part, or at the roots of the hair round it, or if hairs are seen broken, or running in an unnatural direction, ring-worm is present (*vide* p. 389). When no pimples are seen, and the skin of the denuded portion is quite white, it is the affection known as *Alopecia*, and for this a strong solution of borax or soda applied daily will be the best means of cure.

HEADACHE.—Headache is a symptom of disease rather than a disease itself (*vide* p. 37.) The principal kinds of headache (which may be distinct, but are often combined) are as follows:—

1. **DYSPEPTIC HEADACHE** may arise from stomach, bowel, or liver derangement. When the stomach is most in fault, the pain is of a bursting or throbbing character in the forehead, and may be attended with nausea. Pain

without nausea occurs to stronger persons who have exceeded in eating or drinking. The pain sometimes ceases suddenly with a 'click' felt at the pit of the stomach, and which signifies the escape of some indigestible article of food from the stomach into the next part of the intestines (*vide* p. 198). Such headaches may sometimes be relieved by a draught of soda-water, or by a dessert-spoonful of citrate of magnesia in water. If they commence shortly after a meal, a mustard-and-water emetic will often afford effective relief. When the liver or bowels are most in fault, there is tightness across the head, and the pain is of a stupefying character. In such cases the bowels should be moved, and Recipes 1 and 2 may be used.

2. NERVOUS HEADACHE.—This is common in delicate persons leading a sedentary life, and in nervous females about the monthly period. Those subject to this headache are usually pale, feeble, and easily flushed or excited, and the headache is often brought on by mental or emotional excitement. The pain may be confined to one spot, or it may be general, especially over the front part of the head. It is sometimes preceded by, or attended by, a peculiar defect of vision, consisting of the appearance of a small hazy spot, which gradually extends into a zigzag halo of light. Nervous headache occurring to women at the monthly periods is frequently spoken of as *megrims*. Hysterical girls are often subject to attacks of nervous pain in one particular spot, which has been likened to driving a nail into the head, and hence the Latin name *clavus* has been given to it. Stumps or bad teeth often localise nervous pain in the jaws. Those liable to nervous headache usually feel chilly, listless, and depressed before an attack. They often wake in the morning with a slight degree of pain, which disappears in a short time. Or they may awake suffering severely, unable to swallow food, and probably feeling sick. The head throbs, and movement

is painful; the face is pale, the pupils contracted, and there is often a dark appearance under the eyes. The head feels hot, and the application of cold is generally refreshing. The patient begs to be left alone and to be quiet.

Nervous headache may arise without evident stomach or liver derangement, but such conditions are often present when nausea, retching, and vomiting, may occur, which does not give relief. Persons who suffer from it, if not erring in quantity of food, do so as regards quality. Many abstaining from alcoholic stimulants drink tea or coffee in excess, and thus irritate the nervous system. Others, intent on business or pleasure, neglect taking food at the proper periodical hours; some, forgetful that motion is one of the laws of existence, remain in close apartments without exercise; and some inflict injury on their nervous systems by the immoderate use of tobacco. Relief at the time is to be best obtained by repose, sleep, and sal volatile. To escape nervous headaches the habits must be altered. The immoderate tea or coffee drinker must take milk-and-water; the devotee to pleasure or business must relax; the indolent or sedentary must adopt regular hours and exercise; the tobacco-smoker must abandon the practice, or at least lessen his consumption; lastly, plain wholesome food must be substituted for made dishes and pastry. When headache of this character occurs to females about the monthly period, bromide of potassium (Recipe 19) may be taken.

3. TIC-DOULOUREUX is an affection of the nerve (*trifacial*) which, proceeding from the brain, divides on each side into three branches. The upper branch (*supra-orbital*) perforates the bone above the eyebrows; the middle branch perforates the cheek-bones below the eyes; the lower branch perforates the middle of each side of the lower jaw. All then divide into numerous filaments,

which are distributed to adjacent parts. The upper branch is the division most usually affected by tic, hence the term BROW-AGUE, or BROW-ACHE. But sometimes the pain is localised in the eye itself, and it is then often spoken of as *migraine of the eye*. When the middle branch of the nerve is affected, the pain may be localised in the upper jaw or teeth, especially if the latter are decayed. When the lower branch of the nerve is affected, the pain may be localised in the lower jaw, the teeth, or in half the tongue. Occasionally, when the whole three divisions of the nerve are implicated, exactly half the face, or even half the head, is painful, and the term *hemicrania* is applied. Tic-douloureux has also been termed 'sun-pain,' as sometimes it only continues as long as the sun is above the horizon. As it usually occurs at intervals, it has been called *intermittent headache*. Lastly, it may be included in the general term *neuralgia*, or *facial neuralgia* (*vide* p. 341). The description and treatment of *brow ache*, which is the most frequent phase of facial neuralgia, is applicable, *cæteris paribus*, to the other varieties.

BROW-AGUE or BROW-ACHE is always most prevalent in so-called malarious localities, and sometimes takes the place of a paroxysm of ague; that is, a person may have ague one day and brow-ache the next. It occurs at regular intervals, as daily, or every second day, and is confined to the course of the *supra-orbital* nerve, commencing from near the middle of the eyebrow, and passing outwards across the forehead. It may be preceded by or attended with twitching or drooping of the eyelid. The pain is very intense, and increases in paroxysms, causing the eyes to water and the nose to discharge, and rendering the sufferer unfit to attend to any business. Sometimes there is a visible red line in the track of the nerve. It may persist during the whole day, but ordinarily subsides in the course of two or three hours. In those subject to it

it may be excited by dyspeptic derangements. Any cause, in fact, which produces a strong impression on the nervous system of those who are disposed to it will bring on an attack. Exposure to heat, and fatigue, working late at night, chill and cold, damp, dinner parties, loss of usual rest, will frequently re-excite the malady. When women have been subjected to weakening influences, such as frequent child-bearing, prolonged suckling, or profuse menstruation, there are additional reasons rendering the system more liable to brow-ague.

Treatment.—In India first attacks are generally of malarious origin, and may be cured by 5- or 6-grain doses of quinine every three hours, preceded, if necessary, by Recipes 1 and 2, to open the bowels. 1 grain of quinine mixed with 3 of starch, used as a snuff, will often afford relief. Decided relief is to be obtained sometimes by pressure with the finger over the most painful part; sometimes by a tight wet bandage round the head; by quiet, and by a darkened room. Holding the arms above the head occasionally gives ease. Hot tea or coffee will also often soothe the nervous system and give relief; or, in some cases, a glass of wine or a dose of sal volatile. Medicines at the time of pain do not, as a general rule, do much good. A small mustard poultice may be placed on the temple or forehead. Equal parts of chloral and camphor, mixed together, form a syrupy liquid, which, rubbed on the parts, generally affords much ease. Sometimes hot fomentations give most relief, but in the majority of cases more ease is experienced from cold or ice. Repeated attacks will be generally due to a combination of the effects of malarious or debilitating influences, and stomach or liver derangements, and therefore, existing indigestion and dyspepsia must be first treated, after which tonics, as quinine (Recipe 66), may be used. When the malady occurs to females, attention to any irregularity of

the monthly flow is demanded (*vide* p. 467). Bad teeth should also be attended to.

[If quinine does not stop the attacks, iron should be tried (Recipe 71), and this not proving successful, arsenic (Recipe 75). But each tonic should have a fair trial of at least a fortnight's duration. Antipyrine, given in 10- to 15-grain doses in two or three ounces of water, thrice daily, often affords immediate and marked relief, but should not be continued more than two days. Local applications are Recipes 80, 90, 91, the latter being perhaps the most generally successful. Chloroform applied to the part on a piece of lint, and covered with a watch-glass to prevent evaporation, is often beneficial. Cocaine injected beneath the skin is probably the most successful.]

4. BRAIN HEADACHE.—Different from the above varieties is headache occurring in older persons, and caused by what is popularly known as a 'flow of blood to the head.' It often presents as 'warnings' (*vide* p. 53) of more serious disorders, as apoplexy or sunstroke; or from the stoppage of accustomed discharges, as from piles; in women not unfrequently occurring in consequence of the 'change of life.' In such cases the habit of body is usually full and plethoric, the complexion florid, and giddiness is apt to come on in stooping. In severe cases the pain is throbbing, with redness of the eyes and flushing of the face, a feeling of tightness across the head, a fulness or whizzing behind the ears, and often thirst and feverishness.

Treatment.—If the pain is slight, purgatives (Recipes 1 and 2), no stimulants, restricted diet, rest from brain-work, and care against exposure to the sun, with moderate exercise. When severe, with feverishness, rest in a sitting posture, quiet, cold lotions to the head (Recipe 83), cutting the hair short, and eight or ten leeches behind the ears.

5. RHEUMATIC OR GOUTY HEADACHE.—Headache may be due to rheumatism or gout of the muscles of the scalp. The pain will be felt to be *outside* the head in the scalp, becoming worse on wrinkling the forehead; there will be

pain in other parts, and probably red deposit in the urine. *Treatment* by alkalies and colchicum, as advised for *Rheumatism and Gout* (p. 282).

HEART, DISEASES OF.—To distinguish the diseases of this organ requires a high degree of medical skill, and accurate knowledge of the anatomy of the organ, a correct ear to judge of the sounds of the heart, and much practice. When the heart is affected there are alterations of the sounds only to be appreciated by the educated ear of a medical man. But in addition to alteration of sounds, there are other symptoms indicative of heart disease. Intermittent pulse, palpitations, fainty feelings, a sense of weight and oppression, shortness of breath, livid face, cold extremities, pain in the left arm, and swelling of the legs all more or less accompany heart disease. But some of these symptoms also accompany indigestion, so that without a knowledge of the healthy and diseased sounds of the heart a proper conclusion regarding the true significance of such symptoms cannot be arrived at. If, however, pain or uneasiness in the left breast is accompanied (without any evident cause) by pain in the left arm, or by other signs as enumerated above, and if dropsy or swelling of the legs occurs, unless the patient be a young woman with disordered menstruation, some serious malady may be suspected. When such is the case the following rules may be always adopted:—1. *The work of the heart should be lessened* by resting a good deal in the recumbent posture, by avoiding stimulants and sudden changes of temperature. 2. *Regularity of the heart's action should be ensured* by avoiding mental excitement, by avoiding sudden muscular exertion (as rapid walking, lifting heavy weights, &c.), by not partaking of a large distending meal, by not drinking large draughts of cold fluid, by guarding against indigestion and constipation.

HEART, PALPITATION OF THE.—This, being a very

common symptom, requires special notice. The term denotes a sudden and irregular action of the heart, often accompanied by sensations of distress and faintness. In the majority of cases this does not signify serious disorder, but is caused by indigestion, flatulence, or tobacco. It often accompanies anæmia, hysteria, and amenorrhœa (*vide* pp. 46, 305, 468), and is common during pregnancy. Palpitation arising from disease of the heart itself and palpitation depending on other causes may be distinguished as below.

*Palpitation depending on Disease of
the Heart*

Most common in men.
Comes on gradually.
Constant, though more marked at one time than another.
Frequently accompanied by pain in the left shoulder.
Lips and cheeks often livid, and countenance florid.
Most common after forty-five.
Often not much complained of by the patient.
Sounds of the heart altered.

*Palpitation arising from other
Causes*

Most common in women.
Comes on suddenly.
Occurs at intervals of perfect freedom.
Frequently accompanied by pain in the side.
Countenance pale.
Most common in young persons.
Usually very much complained of.
Sounds of the heart healthy.

To relieve palpitation give a tea-spoonful of sal volatile in a glass of water, or a little wine; attend to the state of the digestion; use remedies for constipation if prevailing, and forbid tobacco and strong tea or coffee.

HEART, SPASMS OF THE, also called *Angina Pectoris*, and *Suffocative Breast Pang*.—Occurs chiefly in advanced life. It is a temporary stoppage of the heart, and is attended with *intense* pain of a shooting, tearing character, extreme difficulty in drawing the breath, great anxiety, and sense of impending death. The attack ordinarily passes off in a minute or two. It leaves the patient tolerably well, but weakened. The first paroxysm usually

occurs when the patient is walking uphill, or after a heavy meal, especially if taken at night. The attack is very likely to recur, but at no fixed interval, months or years sometimes elapsing. It is rarely that the earlier attacks of breast-pang terminate fatally; but as the spasms depend on organic change in the heart or its arteries, *angina pectoris* is a most serious malady.

Treatment.—During the attack, a stimulant, as wine or brandy, is required immediately, and afterwards remedies to relieve any attendant dyspepsia. The great point is to ward off future attacks, and this is only accomplished by the greatest care in diet, and by refraining from all exertion which accelerates the breathing. A person subject to this disease should carry an ounce of brandy, or a tea-spoonful of sal volatile in a little water, on his person, which should be taken immediately on an attack.

[The best remedy is *nitrite of amyl*, which is a pale straw-coloured liquid having an odour something like pineapple. Five or six drops should be sprinkled on the pocket handkerchief, which should be held to the nose and mouth, so that the vapour may be inhaled. Or it may be obtained in glass capsules, each containing enough for a single inhalation; to be carried in the pocket.]

HEARTBURN.—This term is applied to a feeling of heat in the chest and throat, often accompanied by hot or cold acid eructation of watery matter (*vide Water Brash*, p. 204). This malady has nothing to do with the heart, but is a symptom of indigestion, and should be treated as dyspepsia (*vide* p. 207).

HICCOUGH.—Consists of sudden, short, convulsive, spasmodic *inspirations*, attended by a peculiar sound produced in the *larynx* or upper part of the windpipe, and immediately followed by *expiration*. These convulsive inspirations often occur in *paroxysms*, and may succeed each other at intervals of a few seconds. The *paroxysm* may

last only a few minutes, or may extend to hours or days. Hiccough in most instances arises from indigestion, or from food being hastily swallowed. But it is sometimes present as a symptom during the progress of diseases of the liver and stomach, and it may come on after cholera. When depending on indigestion it may be generally relieved by taking a few grains of bicarbonate of soda and ginger, or by a little brandy-and-water. Sometimes in the case of indigestible food lodged in the stomach vomiting is required to produce relief, and a mustard emetic may be given. Spirits of camphor, chlorodyne, and sal volatile are also good remedies. Swallowing a piece of ice will sometimes give relief. When the attack is slight it may often be stopped by making a very full inspiration, and then holding the breath as long as possible. Strong pressure, as a belt tightly drawn round the body, over a pad on the pit of the stomach, will sometimes stop hiccough. Or pressing firmly near the end of the collar-bones next the throat with the thumb may be successful.

HOUSEMAID'S KNEE.—This term is applied to inflammation of the ‘bursa,’ or little water-bag situated over the knee-cap. The *front* of the knee-joint is swollen and tender, with a feeling of ‘crackling’ if touched, and there is considerable pain. It results from injury or from constantly kneeling; hence the term ‘housemaid’s knee.’ The swelling should be leeches, warm fomentations should be applied, and perfect rest enjoined. After recovery a bandage should be worn for some weeks.

HYDROPHOBIA.—The saliva from the mouth of a rabid animal, as a dog, jackal, wolf, or cat, is the poisonous agent causing this disease. A very slight wound, either from teeth or claws, if saliva be on the latter, is sufficient to introduce the poison into the system. After a bite from a mad dog hydrophobia may come on after some weeks, or it may be delayed months, or even, in excep-

tional cases, years ; but it is rare after the fortieth day. It does not follow that everyone bitten by a mad dog must suffer from hydrophobia. The saliva may be wiped off by clothing, through which the animal's fang passes ; or the person may escape without any assignable reason. Only one in twenty of those bitten by mad dogs suffer.

Symptoms.—In most cases there is slight irritation at or near the scar of the wound, and there may be vague feelings of uneasiness, melancholy, gloom, with irritability of temper, frightful dreams, or shivering. Sometimes there is twitching of the muscles of the face, also in many cases fear and dismay lest hydrophobia should occur. After a few hours or days the patient complains of stiffness of the neck and difficulty of breathing, which suddenly pass into suffocative spasm, most probably on some occasion when the patient attempts to drink. These spasms recur at variable intervals of minutes or hours, and eventually extend from the throat and chest to the muscles of the whole body, which are convulsed. The face is turgid, the eyeballs protruding, the patient foams at the mouth, and claws at the throat as if to remove some obstruction. These general spasmodic seizures are succeeded by intervals of ease and relaxation. Between the spasms saliva which cannot be swallowed collects about the mouth, causing perpetual hawking and spitting. At first these spasmodic attacks are excited only by attempts to swallow fluid ; afterwards the sounds or sight of fluids, suggestions to swallow anything, movements or looks of bystanders, draughts of air, rays of light, the sight of anything white, or of a dog, may excite spasms. As the throat spasm spreads to wide convulsions, so the mental distress may proceed to frenzy, causing the patient to rush wildly about, in a state of maniacal fury. It is popularly supposed the patient barks like a dog, for which the

hawking has been mistaken; and that he tries to bite his attendants, for which the spasmodic movements of the jaws have been mistaken. The ordinary duration of hydrophobia is from one to four days, after which the person dies exhausted, or suffocated from spasm of the throat. Hydrophobia may be mistaken for tetanus, and the distinctions are given at p. 440.

In some cases, at the commencement, or before the beginning of the disease, the presence of a vesicular eruption under the tongue has been noted. This has been thought distinctive of hydrophobia, as other eruptions are of other diseases. This should be looked for daily. It should also be looked for in persons who have been bitten by a mad dog, as it has occurred as early as the third day after the injury, long before any other symptoms.

There is an affection, arising from nervous influence, or fear, after an injury by an animal which is *not* mad. This is called *spurious* or *false hydrophobia*, but the symptoms are very similar to those of the real disease. Instances of reputed recovery from hydrophobia are usually from this false form of the malady, which may be regarded as present when it can be proved that the sufferer has *not* been injured by a rabid animal.

Treatment.—Recovery is rare. Bromide of potassium (Recipe 19) should be given every hour, and ten grains of chloral every four hours. Thirst may be alleviated by ice, and mustard poultices should be applied to the upper part of the chest. A darkened room, protection from draughts, quiet, and nourishment if it can be taken, are important. Sometimes the patient can swallow nourishment if he shuts his eyes. If the eruption under the tongue is found, all the vesicles should be pricked.

Symptoms of Rabies or Canine Madness.—The dog affected is at first restless and irritable and hides in corners, while food is refused. The look is suspicious and ‘sneaking,’ the tail drooping, and there is often redness or watering of the eyes. Sometimes the animal wanders about looking for bits of paper or pieces of straw, which it seizes and

eats. It is also fond of rubbing the nose on cold objects. The bark becomes changed and hoarse, the hair set or 'staring,' and the dog snarls and snaps at children and others with whom he was previously on the best of terms. In a short time saliva begins to flow from his mouth, and the throat becomes inflamed, but there is no dread of fluid, as in the human subject, the dog lapping water during the whole illness, which, however, is often not swallowed, but flows out of the mouth.

Treatment of the Bite of a Rabid Animal.—The poison remains dormant near the wound until hydrophobia is excited, and does not, like snake poison, enter the system immediately. When the arm or leg is bitten, a pocket handkerchief or piece of string should be tied tightly round the limb above the bite. The person should then forcibly suck the wound; or, if from position he is unable to do so, some friend may perhaps perform the office. No danger is incurred, provided there is no wound on the lips or mouth of the person sucking. As soon as possible the bitten part should be cut out if surgical aid is obtainable, and water-dressing applied. If not done at the time it should be effected days or even weeks afterwards, *should the person appear fearful of hydrophobia*. If position forbids cutting the part out, several punctures should be made near, and bleeding should be encouraged, as recommended for snake bite, p. 608. But when the patient is not seen until the wound is healing, it will be better, in the *absence of fear*, and in the absence of symptoms, to leave it alone. In all cases everything should be done to reassure the patient, and he should be made to understand that all has been done which can be effected.

If after a bite from a mad dog the person will not submit to the knife, or if a sharp knife is not at hand, nitrate of silver may be thoroughly applied; or, if not available, strong nitric acid or sulphuric acid, or caustic potash, or boiling oil, may be applied to the wounds. One or two drops of either of the agents named should be dropped into the wound, taking care that the fluid used does not

run over the surrounding skin. Or the *actual cautery* may be used. This means a red-hot iron, such as a thick iron wire, introduced for a few moments into the wound. The pain of the actual cautery is not nearly so acute as is supposed, especially if the iron is very hot, and if it is pressed firmly against the part. Filling the wound with gunpowder, and flashing the gunpowder, is also a ready method of destroying the virus which may have been introduced.

Hydrophobia, Prevention of.—M. Pasteur has proved that inoculation renders dogs proof against rabies, and similar success has been recorded after inoculation of the human subject. But this cannot be regarded as an established method of either prevention or cure. It does not follow that a person bitten will get hydrophobia, and before prevention is asserted it must be proved that the person would have had hydrophobia, or success must be invariable, which is not the case, deaths having occurred from hydrophobia after inoculation. Moreover, there is reason to believe that inoculation excites other anomalous affections, especially *paralytic hydrophobia*. Another method of prevention is M. Buisson's daily vapour bath at a high temperature for seven consecutive days, by which it is asserted the poison is taken out of the body in profuse perspiration. Neither of these methods is recommended.

HYPOCHONDRIASIS.—This condition, popularly known as *hypochondria*, or *the vapours*, may be regarded as the correlative in the male sex to hysteria in the female. It may arise from too good living and too little exercise, combined with absence of mental occupation. Or it may originate from overworking the brain, or from worms. The person fancies himself the subject of various bodily ills, and does not believe if told there is little the matter with him. Very frequently there is some functional disorder of the liver, or indigestion, present, which laxative medicines and exercise in the open air will soon carry off. Next to slight dyspeptic symptoms, the most common complaints of the hypochondriac are of neuralgic pains of a burning character, but not the throbbing, excruciating aching of true neuralgia (*vide p. 341*). For the proper *treatment* of this

malady the cause must be sought. The person suffering from the effects of severe or long-continued mental labour will require relaxation and bodily exercise; the man having nothing to do will require some employment. Medicines are not of much use. When a person is really 'hypped,' there is only one decisive remedy—namely, change of air and scene. A very short time will often work wonders, and it is in such cases that the ability to take three months' leave for the trip to England is invaluable. It often happens that 'home-sickness,' or longing for home, known as *nostalgia*, is a prominent idea in the mind of the hypochondriac. And this is especially the case with natives of one part of the Eastern Empire serving in another, and who are often the subjects of the hypochondriacal condition. It would appear as if this longing for home were nature's method of pointing out the path of cure.

HYSTERIA.—A deranged state of the nervous system of females, especially those in easy circumstances and of sedentary habits. Hysteria manifests itself in two ways: *first*, by a long train of nervous symptoms; *secondly*, by attacks of convulsive fits, commonly called 'hysterics.' A person may suffer from the nervous symptoms presently named, and from occasional hysterical fits; or she may suffer from occasional hysterical fits, the intervals between such fits being more or less free from nervous symptoms.

The principal nervous symptoms are flushings, flatulency, hiccup, palpitations, difficulty of breathing, choking sensations, a feeling as of a ball in the throat, and loss of voice. Pains in various parts of the body are also very common. One called *clavus* is described as like a nail being driven into the head (*vide* p. 292). The left side, the nipples, the joints, are also often affected. Nearly every ailment may be simulated by hysteria, and the

patient will plaintively detail symptoms very similar to those of real disease. Thus it may be supposed that an hysterical female is suffering from inflammation of the bowels, or of the womb, or of the throat, when there is nothing of the kind the matter. Stiffness, or even paralysis of a joint, affections of the spine, retention of urine, structure of the gullet, are well-known hysterical complaints. But all pains described by hysterical females are *terrible*, and not in accordance with those of the real disease. The skin is touched, and the patient screams; but on pressing firmly there is no increase of pain, which would be the case were inflammation and real disease present. The face is not worn, and expresses no suffering. There is a peculiar expression, and a drooping of the eyelids, very characteristic of hysterical persons, and questions are answered abruptly. The temperature of the body, as shown by the thermometer, is not increased, which would be the case if inflammatory disease were present. *Lastly*, there is the history of the hysterical tendency, as evidenced by the minor symptoms first mentioned; so that there is rarely any difficulty in arriving at a correct conclusion, whether a malady presenting in an hysterical person is real or the reverse. As a rule, the disorder is, in the mind of the patient, firmly believed to exist; and there is no doubt that the pains complained of are real (although nervous pains), and actually felt by the patient. But in some instances hysterical persons are fond of making diseases, and will stick pins or needles into the flesh, or swallow them for that purpose. They will sometimes refuse food, unless they can obtain it surreptitiously; or they will secrete and swallow blood or other fluid, so that they may afterwards vomit it up, as if from disease. Frequently, in cases of hysteria, the monthly functions are irregular: or there may be worms.

Similarly, *hysterical convulsions*, or the *hysterical fit*, is very

different from other convulsive affections. It is preceded by sobbing, yawning, hiccup, feeling of a ball rising in the throat, or sensations of choking. There is no insensibility, and the countenance is natural. The patient, if she falls, does not do so heedlessly, but in some comfortable place, and avoids injuring herself. There are convulsive movements of the limbs, which are, however, still partly under the control of the will, and there is often alternate crying and laughing. After the fit there is frequently a copious discharge of light-coloured urine. For distinction from epilepsy, with which it is most likely to be confused, *vide* p. 218.

Treatment.—During the paroxysm the dress should be loosened, plenty of fresh air should be allowed, a fan should be used, and cold water, vinegar, or eau de Cologne may be sprinkled on the face, smelling-salts, or the smoke from burnt feathers applied to the nostrils, and the extremities should be well rubbed. If the patient can swallow, a tea-spoonful of sal volatile in a wineglass of water may be administered. If the person is young, strong, and healthy, the mouth and nostrils may be compressed or closed, until efforts to breathe become powerful and then suddenly let go, which often terminates the fit. In prolonged cases cold water may be poured from the spout of a kettle on the head. Hysterical persons should not, however, be treated roughly; for it does not follow that because a person is hysterical she may not have some other disease. On the other hand, sympathy is misplaced, and will usually make an hysterical person worse. Although hysterical patients cannot altogether avoid their attacks, they can to a certain extent guard themselves against the seizures; and this, they should be made to understand, they are expected to do. In the intervals between the fits, good food, good air, exercise, employment for the mind, attention to the bowels, and cold

bathing are necessary. If the monthly flow is deficient or irregular, attention must be directed to this condition (*vide Amenorrhœa*, p. 468).

In cases in which hysteric paroxysms are prolonged or associated with unusual symptoms, there may be some affection of the urine requiring skilled advice. A form of nervous disturbance much resembling hysteria, but of very serious import, sometimes attends Bright's disease.

HYDROCELE signifies a collection of water in the cavity or bag enveloping the testicle, which comes on gradually. It begins from the bottom of the purse, and forms a pear-shaped swelling, smooth on its surface, soft to the feel, free from pain and tenderness, but causing uneasiness from its weight. It may originate from injuries, it may occur without assignable cause, and it may be congenital. It may be mistaken for *rupture* or *varicocele*, and the distinctions are given at p. 593. The only cure is a surgical operation known as 'tapping and injection.'

INFLAMMATION.—Inflammation manifests itself in increased vascularity and sensibility of the part attacked, which may be any part of the body. Inflammation of internal organs is the most dangerous. It produces heat, swelling, and redness from engorgement of blood, attended by pain, increased on pressure. If extensive, the whole system sympathises with the local mischief, and there is fever, quick pulse, generally constipation, and high-coloured urine. Unless cut short at first, inflammation goes on till an effusion of liquids takes place in the inflamed part, and what are called *lymph* and *serum* escape from the blood. These matters quickly become *pus* (or matter), and the result is an *abscess*. The symptoms and treatment of *external* inflammations are those of acute inflammatory abscess (*vide* p. 39). *Internal* inflammations are treated of under the headings of the different organs (*vide* also p. 587, *Defensive Inflammation*).

Inflammation often leads to *mortification* or *sloughing* (*vide* p. 337), or may cause an ulcer or open sore.

INFLUENZA.—This is a severe epidemic *catarrh*, spreading usually from the north-west towards the south-east, over large tracts of country. The causes of influenza are not understood; but it has been theorised to depend on a specific poison or microbe. As it occurs in greater force periodically, or at intervals of years, and at any season of the year, it is argued that it is not, like an ordinary cold or *catarrh*, caused by chill, or sudden vicissitudes of temperature, and therefore must *not* be confounded with ordinary *catarrhal* attacks, which occur most frequently at the colder or changeable seasons. Nevertheless there is no doubt that cold and chill, if not actually causing influenza, place the person in that condition most favourable to the initiation of the malady. A weak state of health, overcrowding, and insalubrious surroundings of all kinds are predisposing causes. Although influenza occurs in greater force periodically, influenza is always present, being in these respects like various other maladies. There are no broad distinctions between a bad cold and an ordinary attack of influenza. There is little doubt that all bad colds, characterised by other symptoms than running and stuffing of the nose (being in reality inflammation of the membrane of the nose) are influenza, although not usually called so. The public have long appreciated this, as is evident from the term in common use, ‘an influenza cold.’ The symptoms of influenza are, *first*, those of a very bad cold or *catarrh* (*vide* p. 113), to which are added a sudden, early, and extraordinary subdual of the strength, great depression of spirits, restlessness, and anxiety. There is usually cough, and there is always danger of bronchitis or inflammation of the lungs, or of rheumatism supervening. Often the pit of the stomach is tender, the digestive organs are

disturbed, the tongue is white, the appetite and taste are lost, and there may be nausea and vomiting. Pains in the limbs and body are also present. The skin, at first hot, afterwards grows moist, and perspires profusely, exhaling a musty odour. The very young and the very old bear influenza less favourably, owing to the great debility it occasions, and the liability to chest affections. The duration of the disease may be from four or five to ten or twelve days. But convalescence is often protracted, and is then characterised by debility, or troublesome cough, or neuralgic pains, or loss of taste, or various other nervous affections.

Treatment.—The patient should be placed in a cool, well-ventilated room, but free from draughts. If the bowels are confined, Recipes 1 and 2 may be given. Then, citrate of magnesia (*vide* p. 15) to subdue feverishness, and Recipe 57 to meet cough or bronchial irritation. After the first day or two the diet should be nourishing and liberal; elderly persons also requiring a moderate amount of stimulants, which may be port wine or brandy. As soon as feverishness begins to subside quinine (Recipe 66). If bronchitis, inflammation of the lungs, or rheumatism occur, the treatment for those affections should be pursued.

JAUNDICE.—In this disease the skin becomes greenish or yellow, which has led to the malady being spoken of as *green* or *yellow jaundice*, as if there were two distinct kinds. The difference of colour depends on the amount of bile contained in the blood, and does not signify a different affection. The whites of the eyes assume a similar greenish or yellow tint; vision is often affected, everything appearing yellow; the bowels are confined, the fæces are white or clay-coloured, but the urine is of a deep yellow; the skin generally itches, and there is a bitter taste in the mouth, with coated tongue, and nausea, especially in the

mornings. The cause of all these appearances is bile in the blood. From some one of various causes bile escapes into the blood, and is partly passed away by the kidneys through the urine. The jaundiced condition may be either *permanent* or *temporary*.

Temporary jaundice may be the result of congestion of the liver (*vide* p. 318). Or it may arise from a gall-stone in the bile-duct preventing the passage of bile (*vide* p. 275). It also occurs during certain kinds of fevers. But usually temporary jaundice depends on congestion about the bile-ducts, and Recipes 1 and 2 may be taken every night and morning; while a mustard poultice should be applied daily, or as often as can be borne, over the liver. The food should be light and nutritious, and stimulants should be avoided.

[It will be advisable for the patient to procure Recipe 9, to be taken at night, and Recipe 6 for the morning; to be repeated every or every other day, according to the effect produced. Recipe 32 should also be taken by a weakly person, or if dyspepsia is present; and Recipe 33 by a stronger person, when there is no dyspepsia, three times daily. When constipation exists, a course of Carlsbad salts may be used.]

Permanent jaundice depends on some serious or organic disease of the liver or other internal organ, and the disease thus producing the jaundice generally ends fatally.

A form of jaundice sometimes occurs, accompanied by atrophy or shrinking of the liver, which from its rapid course and frequent fatal termination has been termed *malignant*.

JOINTS, INFLAMMATION OF.—Occurs as a consequence of injuries, rheumatism, gout, and scrofula. The joint affected becomes swollen, tender, and painful, and if large, as the knee, there is also much feverishness. Leeches, fomentations, and rest are the appropriate *local* remedies, any existing constitutional disease being also treated. If stiffness remains after the acute stage, liniments and bandages should be used.

Affections of the hip and knee-joints are sufficiently common and important to demand separate description.

JOINT, HIP-, DISEASE OF THE.—Usually occurs to children who have inherited a scrofulous taint. It frequently arises without any assignable exciting cause, but is often attributed to slight accidents. The earlier symptoms are trifling, and therefore often remain undetected, or unattended to. If, after a slight injury, a child complains of pain in the hip, or *in the knee*; if the child limps when tired, or if it drags one leg, a suspicion of incipient hip-joint disease should be aroused. The limb should be carefully measured, both when the child is standing up and when lying flat on the back. If one leg appears *slightly* longer than the other, the suspicion of hip-joint disease of the limb, thus *apparently* lengthened, is materially confirmed. For, in order to take the weight of the body off the affected joint, when the child stands he bears upon the sound limb, throws out the sound hip, and *lowers* that of the opposite side. If, when the child lies on the back, the lengthening of the limb is still evident, it depends on effusion of fluid within the joint, which mechanically presses down the limb, rendering the existence of disease beyond doubt. Even if this lengthening cannot be detected, a suspicion of hip-disease may be usually confirmed by the following tests. If the projecting bone of the hip-joint is smartly tapped, or if the heel of the foot is struck, when the child is lying down and the leg is straight, pain, more or less acute, will be felt in the affected hip-joint. As the disease progresses the child becomes less able to walk, the lameness increases, and at last he is unable to stand. The buttock becomes flattened from *wasting* of the muscles, and the joint grows tender; while movement of the limb is very painful. Instead of the limb being *lengthened*, it now becomes gradually *shortened*; the knee of the affected limb becomes directed

over the opposite thigh, the foot is turned inwards, chronic abscesses form (*vide* p. 41), and hectic fever (*vide* p. 269) prevails.

Treatment.—The most important point is perfect and early rest of the affected limb. On *suspicion* of hip-disease the child should be kept on the bed; and if there is *certainty* of disease, motion of the limb should be prevented by the use of a long well-padded splint, as figured at p. 571 for fracture of the thigh. The bowels should be kept open, and feverishness subdued by magnesia (*vide* p. 15). Quinine (Recipe 66) will be generally advisable. When the joint becomes tender, fomentations will be required; and if matter forms, it must be evacuated by puncture with a lancet. But the disease requires treatment by a skilled surgeon. Here it will suffice to mention the great importance of good hygienic conditions.

JOINT, KNEE-, DISEASE OF THE.—This mostly occurs in scrofulous children, and has obtained the name of *white swelling*, because, although the joint may be considerably enlarged, and the parts inside much diseased, the skin retains a white colour, and gives little indication of the inflammation underneath. It is generally attributed to some injury, but the malady is constitutional, and the injury can only be regarded as the determining cause of a constitutional taint showing itself in a particular part of the body. In white swelling the pain and enlargement are at first trifling, causing merely stiffness of the joint, and uneasiness only when moving or attempting to use it; so that the disease often makes considerable progress before it is recognised. Afterwards the pain is greater, and generally worse at night. The malady, if not checked, usually terminates in abscess, and in disease of the bones of the joint. Stiffness, swelling, or tenderness of the knee or hip joints, or ‘limping,’ occurring to children, should lead to application for medical advice. In

the meantime it should be recollected that a diseased joint requires absolute rest, although fresh air should be afforded to the patient. The diet should be light but nourishing.

JOINTS, HYSTERICAL.—Certain symptoms of joint disease often present in hysterical females (*vide* p. 305), such as pain, tenderness, stiffness, and difficulty of motion. But the hysterical joint is neither swollen, hot, nor red. Tenderness on pressure is as great when the pressure is slight as when it is severe. If the hip is affected there is no pain in the knee so often attending hip-joint disease (*vide* p. 312), and striking the sole of the foot will not produce pain (*vide* p. 312). If the knee is affected pain is usually felt just below the knee-cap, and not generally throughout the joint. Usually persons so suffering have been subject to hysterical fits. The joint may be rubbed with soap liniment and the person treated for hysteria (*vide* p. 307).

KNOCK-KNEE.—Knock-knee comes on about the age children begin to walk. It is also found in growing boys and girls who stand too much, or who carry heavy weights, especially if of delicate constitution. Usually one knee is more affected than its fellow. There is sensation of weakness and aching pain. It is often due to mechanical yielding of the parts concerned. But it may also be associated with rickets (*vide* p. 371). The weakened ligaments must have time and rest given them to contract and grow strong. Exercise should be abridged, and supports of the lightest description should be procured. Diet must be nutritious.

KIDNEYS, INFLAMMATION OF THE, or NEPHRITIS.—This is known by the pain in the loins, usually on one side, but on both if both kidneys are affected. The pain strikes downwards towards the groin, and in males the testicle is often drawn up by spasmodic action of the

muscles. The pain is of a dull, diffused, deep-seated character, increased by firm pressure, by coughing, or sneezing. It is also increased by straightening the leg of the affected side, and the patient lies on his back, or perhaps on the affected side, with his leg or legs drawn up. There is also often numbness in the inner part of the thigh. The urine is scanty, and voided painfully at short intervals; it frequently contains *albumen* (*vide* p. 101), and often becomes bloody. There is usually considerable feverishness, and the bowels are mostly confined. The causes of inflammation of the kidney are cold, external injury, long-continued and violent exercise of the muscles of the back, as in riding; gravel; diseases of the bladder and urinary passages, and scarlet fever. Inflammation of the kidney often lays the foundation of 'Bright's disease' (p. 100), or of abscess. For distinction from lumbago, with which it may be confounded, *vide* p. 324.

Treatment.—The bowels should be opened by Recipes 1 and 2; medicines encouraging perspiration should be given, as citrate of magnesia (*vide* p. 15), and the patient should drink freely of barley water, rice water, or linseed tea. A hot hip-bath should be given daily, and pain at night may be alleviated by Dover's powder or chloral. Perfect rest should be enjoined, and the diet should consist of nourishing broths and gruels.

LARYNX, INFLAMMATION OF THE.—The larynx is the upper portion of the windpipe, containing the parts forming the organ of voice. Inflammation of this part often commences with sore-throat or catarrh. It may be brought on by cold or by too great exertion of the voice; or it may be connected with consumption, or be a consequence of venereal. It may occur to so slight an extent as to produce *hoarseness*, or it may go on to total loss of voice, and ultimately cause suffocation. It may be *acute*, terminating, often fatally, in a few hours; or it may be

chronic, lasting weeks or months. When inflammation of the larynx is acute and severe, it is a dangerous disease. There are fever, pain, and tightness about the throat, husky croaking voice, cough of the clanging croupy character, thick tenacious expectoration, difficult breathing, long-drawn hissing inspiration, inability to swallow easily, sleeplessness, attacks of suffocative spasm, urgent fears of suffocation, and towards the end gasping for breath and convulsions. The throat may be seen red and swollen within, and on pressing the tongue downwards the upper part of the larynx or 'epiglottis' may be seen erect and inflamed (*vide* p. 548). The small aperture into the wind-pipe is, from the swelling of the parts, more or less closed, thus preventing the entrance of air. Laryngitis may be confounded with croup or diphtheria, the distinction being the absence of the false membrane and deposit described in those diseases (*vide* pp. 154, 177).

Treatment.—When the malady presents as simple *hoarseness*, or loss of voice, occurring, perhaps, chiefly in the morning, avoidance of cold, especially at night, flannel round the throat, or a mustard poultice, the feet in mustard-and-water at night, and an expectorant mixture (Recipe 57) may be sufficient. But when the disease is severe very active measures are required. Leeches should be applied to the *upper part of the chest*—one for each year of the patient's age to the number of thirty. The steam from hot water should be frequently inhaled, and hot moist sponges should be applied to the throat. Dover's powder should be given in 5-grain doses three times a day, and if necessary the bowels should be moved by Recipes 1 and 2. The patient is to be kept from talking, in a warm room free from draughts, the temperature of which should be maintained as equable as possible, and not be allowed to sink below 80° Fahrenheit. The air should be rendered moist by steam from a kettle of boiling water (*vide* p. 104).

The diet must consist of fluids, as strong soups and broths, and no stimulants should be allowed. The operation of opening the windpipe may be required.

[As soon as possible calomel and opium (Recipe 23) should be obtained and given instead of the Dover's powder mentioned above. The calomel should be continued until there is a metallic taste in the mouth, or slight soreness of the gums. If the patient is a strong, robust person, it will also be advisable to give the tartar emetic mixture (Recipe 50).]

CHRONIC LARYNGITIS is often associated with scrofula, venereal, or cancer. The disease generally passes from bad to worse, and surgical operations may be required. But, in spite of all that can be done, the result is either sudden death from suffocative spasm, or lingering death from extension of the disease.

LEPROSY.—Leprosy appears in *three* forms. *First*, as circular spots, or blotches of irregular size and coppery hue, on any part of the body, which afterwards assume a whiter appearance, becoming dry, hard, horny, and glistening. *Secondly*, as loss of sensation in the fingers or toes, or of some part of the face or body. *Thirdly*, as a gradual growth of solid prominences or tubercles, varying in size from that of a pin's head to a walnut, causing the part to assume a curiously nodulated appearance. Ultimately the parts, however affected, ulcerate, the ulcers gradually eating away the flesh and bones, so that the fingers and toes are lost. It is hereditary, but may be communicated by contact of a sore or abrasion of the skin with leprous discharge. There is no cure for the disease, but its progress may be delayed by good diet, fresh air, and tonics.

The best tonic is arsenic (Recipe 75). Gurjon oil is also much recommended. The dose of oil is 2 drachms twice daily, with an equal quantity of lime-water. One part of oil with three of lime-water must also be rubbed into the body and limbs for two hours twice a day.

the meantime it should be recollected that a diseased joint requires absolute rest, although fresh air should be afforded to the patient. The diet should be light but nourishing.

JOINTS, HYSTERICAL.—Certain symptoms of joint disease often present in hysterical females (*vide* p. 305), such as pain, tenderness, stiffness, and difficulty of motion. But the hysterical joint is neither swollen, hot, nor red. Tenderness on pressure is as great when the pressure is slight as when it is severe. If the hip is affected there is no pain in the knee so often attending hip-joint disease (*vide* p. 312), and striking the sole of the foot will not produce pain (*vide* p. 312). If the knee is affected pain is usually felt just below the knee-cap, and not generally throughout the joint. Usually persons so suffering have been subject to hysterical fits. The joint may be rubbed with soap liniment and the person treated for hysteria (*vide* p. 307).

KNOCK-KNEE.—Knock-knee comes on about the age children begin to walk. It is also found in growing boys and girls who stand too much, or who carry heavy weights, especially if of delicate constitution. Usually one knee is more affected than its fellow. There is sensation of weakness and aching pain. It is often due to mechanical yielding of the parts concerned. But it may also be associated with rickets (*vide* p. 371). The weakened ligaments must have time and rest given them to contract and grow strong. Exercise should be abridged, and supports of the lightest description should be procured. Diet must be nutritious.

KIDNEYS, INFLAMMATION OF THE, or NEPHRITIS.—This is known by the pain in the loins, usually on one side, but on both if both kidneys are affected. The pain strikes downwards towards the groin, and in males the testicle is often drawn up by spasmodic action of the

muscles. The pain is of a dull, diffused, deep-seated character, increased by firm pressure, by coughing, or sneezing. It is also increased by straightening the leg of the affected side, and the patient lies on his back, or perhaps on the affected side, with his leg or legs drawn up. There is also often numbness in the inner part of the thigh. The urine is scanty, and voided painfully at short intervals; it frequently contains *albumen* (*vide* p. 101), and often becomes bloody. There is usually considerable feverishness, and the bowels are mostly confined. The causes of inflammation of the kidney are cold, external injury, long-continued and violent exercise of the muscles of the back, as in riding; gravel; diseases of the bladder and urinary passages, and scarlet fever. Inflammation of the kidney often lays the foundation of 'Bright's disease' (p. 100), or of abscess. For distinction from lumbago, with which it may be confounded, *vide* p. 324.

Treatment.—The bowels should be opened by Recipes 1 and 2; medicines encouraging perspiration should be given, as citrate of magnesia (*vide* p. 15), and the patient should drink freely of barley water, rice water, or linseed tea. A hot hip-bath should be given daily, and pain at night may be alleviated by Dover's powder or chloral. Perfect rest should be enjoined, and the diet should consist of nourishing broths and gruels.

LARYNX, INFLAMMATION OF THE.—The larynx is the upper portion of the windpipe, containing the parts forming the organ of voice. Inflammation of this part often commences with sore-throat or catarrh. It may be brought on by cold or by too great exertion of the voice; or it may be connected with consumption, or be a consequence of venereal. It may occur to so slight an extent as to produce *hoarseness*, or it may go on to total loss of voice, and ultimately cause suffocation. It may be *acute*, terminating, often fatally, in a few hours; or it may be